Appendix to

Bill concerning
Five-Year Development Plan
1956-1960

Indonesia. Biro perantjang negara.

BROAD OUTLINES OF THE FIVE-YEAR DEVELOPMENT PLAN 1956 - 1960

STATE PLANNING BUREAU

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BROAD OUTLINES OF THE
FIVE-YEAR DEVELOPMENT PLAN 1956-1960

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CHAPTER 1

I N T R O D U C T I O N

1. From a practical point of view it will be unrealistic to prepare and carry out an economic construction plan longer in duration than between five and ten years. It will be of great value to analyze whether the basic starting points hereunder described offer a reasonable hope that within a period of one generation Indonesia will be able to expand its economy to ensure its people a rise in standard of living equivalent to that enjoyed in advanced countries.

2. From our experiences in the past few years in Indonesia and also those of some other Asian countries that occupy the same economic position and have the same economic structure as Indonesia, a basic starting point may be taken regarding the possible direction of developments in Indonesia. This basic starting point which shall be explained in the following paragraphs depends on :

a) fundamental universal principles and standards.

b) the significance and magnitude of a Government policy that will lead the State towards its desired ideals.

c) the reaction and attitude of the people in respect of the plan and the willingness of all members of the community to help and co-operate with the Government in carrying out this programme.

3. It is found in this country that the present level of capital formation (level of savings) in the Government as well as in the general private sectors is estimated to be not less than 5% of the entire national income.

4. During the period 1951-1955 capital formation fluctuated around the 5 - 6% level whereas the rate of increase of the national income, based on the yearly increase of production of goods and services during the period 1951-1955, amounts only to 3% of the national income. The ratio

therefore between the rate of capital formation (capital which we need) and the rate of increase of our national income during that period was less than 2:1. In economic terms, our marginal capital-output ratio is below 2; in other words, we in Indonesia must make an investment of 2 units in order to add one unit of production (national income).

5. It may be accepted as approximately correct that the total population of Indonesia is increasing annually by about 1.7% and it is highly probable that this increase of population in the next ten or twenty years will rise to 2% per annum.

6. As has been stated in paragraph 4, between 1951-1955 our rate of increase of national income was 3%. It is expected that the increase in the national income during the period between 1956-1960 will also amount to 3% per annum. As the population of Indonesia increases by 1.7% annually, the per capita increase of the national income averages only 3% - 1.7% = 1.3% per annum.

7. It may reasonably be estimated that of this 1.3% per capita annual increase in national income, 40% of the 1.3% of the national income (i.e. 0.52%) is used annually for new capital investment.

8. It has been stated above that 40% of the per capita increase of the national income is used each year for creation of new capital. Therefore the balance of 60% is used for the purchase of consumer goods; in other words this balance is used to raise the standard of living of the people each year.

9. It is here emphasized that this 40% of the per capita increase in the national income which goes into capital formation each year is not due to the increasing "saving mindedness" of the people or to their higher proponsity to save, but is a result of intentional programmes carried out by the Government through its policy and measures in the fiscal, monetary and economic fields. To maintain this level, Government measures for the

stabilization and improvement of the financial situation in Indonesia are an indispensable condition.

10. In 1960, i.e. at the end of the First Five-Year Plan, it may be expected that the rate of capital formation will be around the level of 8% per capita. And at the end of the Second Five-Year Plan, this is expected to rise to 12% which is twice as high as the present level. If calculated on the basis of absolute figures, the rate of capital formation at the end of the Second Five-Year Plan (1965) will be more than doubled. These are the most conservative estimates of what we may expect from the results of the Five-Year Plan we are to carry out.

11. It must be emphasized that the marginal capital-output ratio of approximately 2 applies only to the First-Year Plan (1956-1960), in which our reconstruction work will be limited to and consist of rehabilitation of damage done during World War II, elimination of bottlenecks, capital investments for expansion and completion of existing capital equipment and improvement and completion of more efficient systems of production, so that our capital investment requirement will not be relatively great.

It may therefore be expected that the marginal capital-output ratio will continuously rise until it reaches the 4:1 level, in the sense that we then shall need 4 units of value in the capital investment to attain one unit value in the production.

12. Estimated on the basis of these factors, the need for capital formation in the 20 years may be expected to rise by 1975 and in the following years to 20% of the entire national income. Based on a reasonable assumption that our capital-output ratio will be around 4 and the increase of population about 2% yearly, the annual increase of national

income in 1975 and the following years will amount to approximately 5% for the whole population of Indonesia and to 3% per capita.

13. It is at this time that Indonesia will reach an economic stage known as the "stage of self-generating expansion" - i.e. our economy can now on its own strength and dynamism make progress towards development as in the case of advanced countries. After 1975 the national income for the entire population of Indonesia will double within the next fifteen years, whereas the per capita national income will only double in the following 24 years. This means that each generation will have a living standard 100% higher than the preceding generation.

14. To achieve these aims, a period of trial must be experienced by the present generation for the next 20 years. During this period, we shall naturally reap the result of our labour in an improvement of our standard of living, but the improvement will not be as fast as in 1975 and the following years. The present generation will only be rewarded with its reputation as the constructor and pioneer of the prosperity and independence of the Republic of Indonesia.

15. Some people might think that the period of 20 years is too long and makes people impatient of the outcome of the Reconstruction Programme. But if we look back 20 years to 1935, we would feel that the time is running fast and that the period of 20 years is only a short period.

16. Possibly, the period of 20 years may be limited and shortened. In other words, the suffering and trials of the present generation could be relieved, if foreign aid could be obtained for the execution of the Five-Year Construction Plan. But it will be wiser if we do not depend on such foreign aid. It is better to consider such foreign aid, if it is received and if it is not prejudicial to our interests, as a mere supplement to

our own financial sources. We are convinced that our Five-Year Plan can be realized with good results, although without foreign aid, and this will raise faith in ourselves and in the efforts and ability of the Indonesian people.

CHAPTER 2

P O P U L A T I O N

A. Introduction

The factor of population affects economic and social development and conversely the economic and social situation influences the growth of population. In order to understand the reciprocal relations between the population factor and economic life and to draw conclusions therefrom, it is necessary to have material information concerning the total of the population and the various factors that affect its growth. It is a great drawback for the work of planning that information regarding the population of Indonesia is exceedingly limited. Since the last census in 1930, all information regarding the population of this country has been based upon mere estimates.

Exact and reliable information regarding the population of Indonesia is urgently needed in order that due attention be paid to the factor of population in our efforts towards development.

B. Basic data about the population

I. Estimates of population and density of population

The population of Indonesia in 1955 is estimated to total at least 82.5 million people, including 2 million aliens. 54.4 million of them live in Java and 28.1 million on the other islands. The density of population for Java (with a total area of 132,000 square kilometers) is 412.1 people per square kilometer and for other islands (with a total area of 1,772,000 square kilometers) is 15.8 people per square kilometer. The average for the whole of Indonesia is 43.3 people per square kilometer.

II. Composition by age

According to registration of electors for the recent general elections in 1954, the population of Indonesia of less than 18 years of age constitutes approximately 45% of the entire population and those of 18 years and over

about 55%. According to estimates, the division of Indonesia's population according to age was as follows in the year 1955:

Age group	Percentage	Total (in millions)
below 15 years of age	38	31.4
from 15 to 60 years of age	57	47.-
over 60 years of age	5	4.1
Total	100	82.5

Source: State Planning Bureau

In these estimates are taken into account the factors of Japanese occupation of Indonesia and the following revolution which caused a decrease in births and an increase in deaths, especially of deaths of babies and children during the period approximately prior to and immediately after 1942-1948 period. It is therefore estimated that the population under 15 years of age and above 7 is less than the normal total. Extremely low births rates around the years 1942-1948 greatly influences the number of children old enough for compulsory education and the number of children completing their study and entering into the working population at this time and in the years to come.

III. Death, birth and population increase rates

No registration has ever been conducted of births and deaths of the entire population in Indonesia. What is known regarding births and deaths depends upon the registration records of Kabupatens in Java and some kabupatens on the other islands.

The present death rate is estimated at less than 20% and the birth rate is estimated over 40% per year. The increase of population is therefore estimated to be as great as 2% per annum. The estimated rate of increase of population of 1.5% is too low but may be accepted as the minimum estimate. With a rate of 1.5% of increase of population, the total increase of population is 1.3 million people per year. But if we take the rate of increase as 2%, which is not inconceivable, the total of population increase per year is 1.7 million in the next five years. And on the basis of a population increase of 1.7% the population then increases by 1.5 million people per annum.

During the period between 1955 to 1960, the increase of population will be at least 6.3 million in total (1.5% each year), possibly 7.3 million (1.7% per year) and it is not beyond the bounds of possibility that the increase will total 8.6 million (2% per year). On the basis of a population increase of 1.5% per year and of 2% from 1965, the population of Indonesia will exceed 100,000,000 people in 1970. In the year 2,000, the population will have doubled in number if it increases by 1.5% per year, just as it had doubled in the first part of this century. It may increase to three times the present number if the increase rate is 2%. This is only to show the remarkable problem of the population increase. It is not certain that they will increase actually as estimated above.

The total population of Indonesia in recent years and their estimated totals in the coming years shown in the following tables.

TOTAL OF POPULATION OF INDONESIA
1930-1955 (in millions)

Year	Java and Madura	Other Islands	Indonesia
1930	41.7	19	60.7
1940	48.4	22	70.4
1950	50.4	26.1	76.5
1951	51.2	26.5	77.7
1952	51.9	26.9	78.8
1953	52.8	27.3	80.1
1954	53.6	27.7	81.3
1955	54.4	28.1	82.5

Source: Control Bureau of Statistics

ESTIMATED TOTAL OF POPULATION OF INDONESIA
1955-1960 (in millions)

Year	Rate of increase per year 1.5%		Rate of increase per year 1.7%		Rate of increase per year 2%	
	Total Population	Increase	Total Population	Increase	Total Population	Increase
1955	82.5	1.2	82.5	1.4	82.5	1.6
1956	83.7	1.2	83.9	1.4	84.1	1.7
1957	84.9	1.3	85.3	1.5	85.8	1.7
1958	86.2	1.3	86.8	1.5	87.5	1.8
1959	87.5	1.3	88.3	1.5	89.3	1.8
1960	88.8		89.8		91.1	

Source: State Planning Bureau

ESTIMATED DISTRIBUTION OF POPULATION OF INDONESIA BY PROVINCE (1955 and 1960)

Province	1930 Total population in millions	1930 In % of population of Indonesia	1952 Total population in millions	1955 In % of population of Indonesia	1955 Total population in millions	1960 Total population in millions
West Java	11.4	18.86	16.2	20.58	17	18.5
Central Java	15.3	25.27	17.2	21.80	18	19.5
East Java	15.1	24.92	18.5	23.51	19.4	21.1
Java & Madura	41.7	69.05	51.9	65.89	54.4	59.1
Sumatra	8.3	13.66	11.6	14.66	12.1	13.2
Kalimantan	2.2	3.59	3.6	4.55	3.8	4.1
Sulawesi	4.2	7.01	5.9	7.44	6.1	6.6
Maluku	0.5	0.93	0.7	0.87	0.7	0.8
Nusa Tenggara	3.5	5.73	5.2	6.54	5.4	5.9
Indonesia	60.4	100	78.9	100	82.5	89.8

Source: 1 Central Bureau of Statistics for 1930 and 1952
2 State Planning Bureau for 1955 and 1960

Note : For the estimates of the population of the various provinces in 1955 and 1960, the same percentages are used as in the year 1952.

IV. External migration

According to records of the Immigration Service, the numbers of people entering and leaving Indonesia in the following years were as follows :

Year	Entering	Leaving
1950	55,672	95,500
1951	57,665	71,095
1952	67,840	64,888
1953	69,015	63,654
1954	67,445	65,615
1955	74,446	75,618

Source: Immigration Service

The above table does not fully reflect the real situation because large numbers of people enter Indonesia illegally. Measures have been taken to prevent illegal immigration and emigration, which may become sources of confusion.

Compared with the natural increase of the population, the consequences of external migration are negligible. Under the present conditions, this state of affairs cannot be considered as a method of relieving the population pressure, but as a danger.

V. Internal migration

One indication of the volume of internal migration is the high level of increase of population in towns, as shown in the table below. As a consequence of this continual urbanization, all kinds of social problems have arisen in the towns.

It would be better if part of the desire to move from the thickly populated areas could be directed into spontaneous movement outside Java. But we are faced with the fact that although in this matter we have had some success, the growth of towns is also continuing very rapidly.

POPULATION OF SOME TOWNS IN INDONESIA
1930 and early 1955

Town	Total population (in thousands)		Ratio per cent.	
	1930	early 1955	1930	early 1955
Djakarta	533.0	1851.5	100	347
Bandung	166.8	805.1	100	483
Medan	76.6	310.6	100	405
Makassar	84.9	335.0	100	395

Source: Central Statistical Bureau

Note: Figures do not include members of the army and police, or their families.

Another type of the internal migration is transmigration. (For further information please refer to chapter on Transmigration).

Compared with the number of people moving from rural districts to cities and the surplus population of Java that must be relieved, the number of transmigrants is extremely low. It is important that the total of transmigrants should be increased and more important still to bring about an increase in the volume of spontaneous transmigration.

C. Population problems in Indonesia and their consequences

The problems of population in Indnesia consist of:

a. An unusually high annual rate of population increase due to a low death rate not accompanied by a low birth rate.

b. Uneven spread of the population.

The consequences of the problems of population in Indonesia are:

1. The population of Java will continue to rise, thus causing the standard of living to remain low.

2. Shortage of man power on the islands outside Java, which checks economic development as well as utilization of the existing natural resources.

In view of the extent of the Indonesia archipelago and its natural resources, the problem of population pressure is not insoluble.

But one would be going to the extreme of belittling the importance of this problem by saying that the population problem in Indonesia can be solved by a better distribution of the population, The possibility of settling people in various regions does not depend on the available area per settler in those regions but rather on the receptive capacity of those regions. And this receptive capacity varies greatly.

This capacity can be expanded in certain regions which up till now have been sparsely populated, whereas in other regions this seems to be an impossibility. On the other hand, there are densely populated regions that are still able to increase their receptive capacity, so that they are not only able to accommodate their already large population but are still in a position to receive additional new settlers.

The policy objective is certainly not an over population density in all regions, but to bring about a greater receptive capacity and a greater mobility in order to attainan optimum relation between the receptive capacity and the population total.

D. Essentials of policy in facing the problem of population

The method of solving the problem of population in Indonesia consists of:

a. 1. Efforts to increase food production to attain an equilibrium between the total of population and food production (see chapters on agriculture and irrigation).

2. Efforts to increase production of consumer goods not only to provide the needs of the present population but also of a greater number of population in the future.

b. Efforts to provide more work through industrialization and in this connection to bring about greater social mobility. Work mobility and territorial mobility.

c. Efforts to resettle surplus population of Java on other islands both by the Government and by private individuals on their own (spontaneous transmigration) (see chapter on transmigration).

The large Indonesian population and an even greater total population than at present will create great possibilities for Indonesia, in view of the extensive sections of the country not yet opened up and the unexploited wealth in its soil.

It must not be forgotten, however, that an expansion of receptive capacity to its maximum requires a long time. Meanwhile, every rise in the national income will be neutralized by a high increase of the population. Therefore, decrease in the birth rate, resulting in a lower increase of population and less severe population pressure, will open greater possibilities for economic development,. However, efforts to propagate the knowledge of birth control among the people will produce results only after a long period of time, so that in spite of more general birth control, new population pressure will decrease only after many years. Possibly expansion of industries and modernization of Indonesia will cause a decrease in the birth rate in the future, as has been or is now the case in other countries.

But there are factors other than the question of population load pressure that must be taken into account. Mothers who become pregnant every year or almost every year and have too many children suffer a high death rate, aggravated by diseases undermining their health.

Children born in too rapid succession receive inadequate medical care and get insufficient food, due to an excessive burden on the mothers and to their low income. The result is a high death rate among the children. From an economic view point, the high death rate among the mothers and children may be considered as a nature's control of the increase of population. But considered from the view point of humanity, this is unacceptable and unjustifiable as a solution for the problem of too high increase of population. Another factor that needs attention is the application at present of the methods of birth control.

The methods of birth control and the instruments used very often prove to be not only unsuccessful but very often are highly dangerous to both health and life. As a health problem therefore, it appears necessary to conduct investigations on methods of birth control and the time of births that are not in opposition to either religion or tradition, that are safe and inexpensive and that are simple in their application.

E. Investigation concerning population and population statistics

For planning of economic development that takes also the question of population into account, extensive information is needed concerning the population. This information may be obtained by means of :

1. Sociographic studies;
2. Statistical studies.

1. A good example of sociographic studies is the village investigations conducted by the Economic and Social Research Institute of the Faculty of Economics of the University of Indonesia. This Institute has conducted investigations in 23 townships of various types in Java and 14 townships (desa) in Sumatra. Other investigations similar to this one are the investigations on transmigration. Furthermore, there are investigations into urbanization. Such investigations should be continued and expanded It is not correct to consider one method of studies as better than the other. Both methods of studies need to be used.

2. Statistical material concerning the population of Indonesia is at present very inadequate. The last census was taken in 1930. The use of this census for the present time is very limited, because conditions in 1930 greatly differed from those today. In fact, information on the population and on the composition of the population at that time cannot be used at present to evaluate the present demographic, social and economic

problems. The only way to overcome this difficulty is to take a new census. Therefore, it is necessary to make preparations for a new census in Indonesia which we hope can be conducted by 1960. Since a census requires a long period of preparation, it is none too early to begin making preparations now. No matter how important the census is, it cannot provide immediate needs and cannot be conducted more often than once in five or ten years. There is a method that can supply immediate statistical requirements and which can be conducted quickly with moderate expenses and with specified and sufficiently reliable results, namely sampling method of investigation. Therefore, a plan is being prepared for conduction of periodical investigation on population social affairs based on sampling.

Statistical information regarding births and deaths are obtained from the registers of deaths, deaths-at-birth and births of the Ministry of Health. The registration is not compulsory. This registration is at present being conducted at the Kabupatens in Java and in some Kabupatens outside Java. Efforts are being made to extend this registration to the whole country and to improve the quality and the completeness of the registration. To speed up the availability of representative information for the whole of Indonesia, it is necessary to employ the sampling system in the birth and death statistics.

CHAPTER 3

FINANCING OF THE DEVELOPMENT PLAN

1. The financing of the Five-Year Plan is to be based on our own resources after consideration of our experiences in recent years. It is also based on the assumption that our State Budget will be in balance or almost in balance at the commencement of the execution of the first Five-Year Plan, so that we can start with the execution of that plan in 1956.

2. In recent years, the size of the Government investment has been determined by the provisions of the State Budget. In these years the volume of Government investment has varied between 1,7 and 2.4 billion rupiahs per year. If we can maintain this level of the Government investment on a non-inflationary basis, it could be considered a success. This will at least ensure that a capital investment of that amount can be continued in the following years.

It must not be forgotten, however, that if inflation continues, that amount for investment cannot be reached and will be lost in financial chaos.

3. According to statistics, Bank deposits that could be used at the end of 1952 for investment amounted to $2.9 per capita or a total of approximately Rp. 2,640 million. Considering the increase of deposits in Burma of about 20%, in Ceylon of about 25%, Pakistan 15% and India 6% and the per capita deposit of the said countries respectively of $4.7, 19.2, $6.3, $5.6, we may assume that deposits in the coming years in which financial stability can be expected may reach the total of approximately Rp.360 million per year. In fact a total of Rp. 2 billion could be reached in five years which amounts to $5.1 per capita. This is still lower than in India ($5.6) at present. The estimated increase of the Bank deposits to Rp. 360 million per year cannot be considered excessive.

As an example, we take the Postal Savings Bank, where an increase in the postal savings can be expected. In 1950, depositors' money with this bank amounted to Rp. 50 million, in 1954 it increased to Rp. 170 million, an average increase of Rp. 30 million per year. In the five-year plan, the following development can be assumed :

At the end of 1955, savings Rp. 180 million -

"	1956,	"	Rp. 210	" 30
"	1957,	"	Rp. 250	" 40
"	1958,	"	Rp. 300	" 50
"	1959,	"	Rp. 360	" 60

an increase of over 15% per year.

4. Issuance of bonds and securities is an effective way of financing capital investment. But in Indonesia such a money market has not yet developed and there is almost no Government credit. This may be noted from the marketing of the R.I. 3% Government bond of 1950 amounting to Rp. 1,5 billion which froze almost 50% of all the money in circulation and money deposited with banks, by forcing the owners to subscribe to that bond.

In the Djakarta Bourse, this bond is quoted at about 57%, which then produces about 6.0%. Previously, the bond was quoted only at 35% but the rate has been raised by large-scale purchasing by the Government. Among other things, the rate has been influenced by the lack of confidence in the stability of the currency value.

Under monetary stability which can be expected in the Five-Year Plan, it will not be excessive to expect Rp. 600 million for the financing of capital investment from sale of Government bonds in the course of five years. Government bonds may be issued directly by the Government or through the Bank Industri Negara, under Government guarantee.

5. The role and importance of foreign capital in the economic construction of our country is a difficult problem and opinions about this vary greatly.

The role of foreign capital is often highly exaggerated. Its attitude is greatly influenced by conditions in the country it is going to enter such as :

1) The foreign policy of the Government;

2) Internal political and security conditions;

3) Stability of economic and financialpolicies.

The import of capital may also come from official institutions that participate in assisting national development, such as :

1) The Export-Import Bank, Washington;

2) The International Bank for Reconstruction and Development

3) Foreign Aid institutions; UNTAA, ICA, Colombo Plan and others.

Experience in the past indicates that the foreign loans and foreign aid to Indonesia which may be used for the financing of our Five-Year Plan may be expected to amount to Rp. 200 million per year and perhaps more.

6. From the above explanation, we now come to the sources of financing the Five-Year Plan which will absorb Rp. 12.5 billion. The object of the above explanation may be seen clearly from the following scheme :

SOURCES OF FINANCES FOR THE FINANCING OF THE FIVE-YEAR PLAN
(GOVERNMENT SECTION)

(in million rupiahs)

	1 Budget	2 Bank credit from increase of deposits	3 Sale of bonds & other securities	4 Total domestic financing (1 2 3)	5 Foreign loans and aids	6 Total (4 and 5)
1956	1,700	-	-	1,700	200	1,900
1957	1,800	320	-	2,120	200	2,320
1958	1,900	340	100	2,340	200	2,540
1959	2,000	360	200	2,560	200	2,760
1960	2,100	380	300	2,780	200	2,980
	9,500	1,400	600	11,500	1,000	12,500

7. It is clear that not everything we want can be achieved in the first Five-Year Plan with our financial resources. Therefore, it is necessary to determine what priorities in execution are considered essential for reconstruction work, without ignoring the complimentariness of those objects.

According to our calculation, Government investment in 1954 which was financed from the State Budget amounts to Rp 2,019 million with the following percentages:

	1954 (in millions rupiahs)	1954 %	Five-Year Plan	In millions rupiahs
1. Agriculture	155.4	8	13	1,625
2. Energy and irrigation	256.3	13	25	3,125
3. Industry and mining	367.6	18	25	3,125
4. Transportation and communications	850.0	42	25	3,125
5. Educational, social affairs and information	389.3	19	12	1,500
	2,019.0	100%	100%	12,500

As has been stated above, the percentage of allocation for the Five-Year Plan differs somewhat from the percentage in 1954 because of the need for equilibrium in the development plan priorities.

8. Our country is often described as under-developed, but what is of importance to us is our extreme dependence on import goods, especially capital goods for investment and for reconstruction. This means we need foreign exchange to import those goods. Foreign exchange requirements in the Five-Year Plan are as follows:

	Allocation	Specification	Foreign exchange requirement	%
I. Agriculture	1,625 (=13%)			
1. Agriculture		1,044	208	
2. Transmigration		383	80	
3. Village community development		198	40	
		1,625	328	20
II. Energy and irrigation	3,125 (=25%)			
1. Development energy		1,750	880	
2. Irrigation		1,100	204	
3. Contingency		275	104	
		3,125	1,188	38
III. Manufacturing and mining	3,125 (=25%)			
1. Special projects		1,078	735.6	
2. Central projects		776.5	351.9	
3. Regional projects		425	200	
4. Mining		757	442.2	
5. Contingency		88.5	67.3	
		3,125	1,797	57.5

	Allocation	Specification	Foreign exchange requirement	%
IV. Transportation and communications	3,125 (=25%)			
1. Roads		1,200	240	
2. State railway		600	187	
3. Post, telephone and telegraph		465	230	
4. Shipping		350	285.2	
5. Harbours		275	138	
6. Aviation		100	27.8	
7. Inland and river traffic		40	20	
8. Meteorology		15	5.5	
9. Contingency		50	25.5	
		3,125	1,169	37.4
V. Education, social affairs and information	1,500 (=12%)			
1. Education		1,050	157.50	
2. Public health		250	25	
3. People's housing		95	9.5	
4. Labour		25	1.3	
5. Social services		12.5	-	
6. Information		37.5	8.7	
7. Contingency		30	4	
		1,500	206	13.7
	12,500	12,500	4,688	37.5

In five years therefore, Rp 4,688 foreign exchange is needed or approximately 37.5% of the entire investment.

If we look back to our experience of foreign exchange expenditure in recent years, we will notice that this amount is not excessive. Moreover, provision for contingencies in rupiahs as well as in foreign exchange have been allowed as a reserve for price changes or indispensable pr

9. In concluding the above explanation, it must be repeated that the basis of our development plan is initially a balanced or almost balanced State Budget. In this way, stability can be expected in our finances. Without such stability the Five-Year Plan will end in chaos.

10. It must, furthermore, be noted that the yearly expenditure of the Five-Year Plan are not the same; in other words, it is not required that 1/5 of Rp 12.5 = 2.5 billion rupiahs be spent each year; generally, the amount required for the first years will be smaller than in the later years, as for example in the construction of big projects, especially in respect of the foreign exchange requirement.

The initial expenditures are generally in domestic currency. Therefore, it will be necessary to put aside some reserves, especially the foreign exchange surplus, for the following years in which foreign exchange spending on development will rise relatively sharply and such a surplus should not be wasted for less important purposes.

Aside from financial stability, the success of our reconstruction plan depends on the extent of our ability to control the spending of our foreign exchange.

11. It is here emphasized that the Five-Year Plan expenditures are only for capital investment for reconstruction work in economic and social fields. As is known, capital investment in the Government sector covers an investment of Rp 12,500 to be financed by the Government. In this amount are not included capital expenditures that have no relation with development but which are necessary from the point of view of government administration.

In the Budget, these expenditures are classified as capital expenditures which are not included in the Five-Year Plan; examples are Government office buildings, defence equipment, etc. or those that are of purely financial nature such as payments of debts or compensation for nationalized private businesses, which do not increase the wealth of the nation.

12. Furthermore, in the Rp 12,500 million of the Development Plan are not included current routine expenditures which must be provided by the Government to complete and to insure investment of capital: for example, most of the expenditures for education, public health and agricultural extension service, as well as transmigration. In the Budget these expenditures are classified under current expenditures (for personnel, goods and others), which are put forward each year in the usual procedure for submitting the Budget.

These expenditures will increase in keeping with the increase in the investment expenditures and should be in balance with the state economic development generally. Capital expenditures in the Budget must be split into:

1. Capital expenditures for the Development Plan;
2. Capital expenditures for non-Reconstruction;
3. Capital expenditures of pure financial character.

In the transitional period, it is necessary to add a sub-section for the capital expenditure item for development (item 1), to record "Commitments" involving capital expenditures for completion of reconstruction projects already started and which are not included in the Five-Year Reconstruction Plan of 1956-1960.

13. By capital expenditures for development we mean the capital expenditures which are intended to increase the nation's production. As has been stated above, capital expenditures for reconstruction should be split in the transitional period in order to make distinction between:

a) Capital investment expenditures in connection with the Five-Year Plan;

b) Investment expenditures in connection with the completion of projects and "Commitments" made before the Reconstruction Plan, the financing of which must be charged to the current Budget. In this regard, it is the Ministry of Finance which determines which of the expenditures must be included in this column.

An example of these commitments is the instalment payments for the railway engines and ships bought from abroad during previous fiscal years.

14. As regards capital expenditures which are not intended for development, it may be explained that such expenditures are obviously capital expenditures, although they do not in fact raise the national production, but merely increase the assets and property of the Government.

The items included under this classification are those connected with the government administration in general, such as:

1) Military and defence equipments (weapons, military equipment, ships for the navy (ALRI), Army barracks, etc.);

2) Security equipment such as equipment for the police;

3) Purchase of lands by the Government which are not intended for reconstruction projects;

4) Means of transport tion and communications equipment that are exclusively used for government administration;

5) Construction of public buildings and Government office buildings;

6) Housing for Government employees;

7) Monuments, parks, places of prayer (mosques, churches);

8) Stock-piling (rice, etc.).

15. Finally, it must be explained here that capital expenditures of a purely financial character are included under "Capital Expenditures" in the Budget, although obviously they do not in fact increase the Government wealth and property; examples are:

1) Payment of Government debts;

2) Extension of credit and advances by the Government to Banks and regional governments for expenditures of a non-developmental character;

3) Extension of loans and advances to government personnel;

4) Extension of credits, placing of deposits or participation of the Government in enterprises that are not included in enterprises under the Development Plan;

5) Compensation payments to nationalized industries;

6) Other expenditures which do not increase the wealth and property of the Government.

16. Actual expenditures incurred should be recorded for each quarter in accordance with the items in the Budget. Capital expenditures for reconstruction (columns IA and IB) include also expenditures for purchase of lands for the construction of the development projects mentioned.

I		II	III
Capital expenditures for reconstruction			
IA	IB		
in connection with the Five-Year Plan	old commitments not included in the Five-Year Plan	Capital expenditures other than for Reconstruction	Capital expenditures of pure financial character

CHAPTER 4

AGRICULTURE, FORESTRY, VETERINARY AND FISHERIES

1. Introduction

In a broad sense, the field of agriculture covers food production, estate agriculture, stock-breeding, forestry and fisheries. Government interest and efforts in this field involve not only production in these fields but also the people engaged in that production (i.e. the farmer, the fisherman, etc.) and their communitirs; all are orientated in accordance with the interest of the national development.

Most of the Government's responsibilities in those fields are in the hands of the Ministry of Agriculture, which is divided as follows:

a) Central (offices of the Ministry;

b) Services: Forestry, Agricultural Extension, Estate Agriculture, Smallholders Rubber, Stock-breeding, Sea Fisheries, Inland Fisheries, Farmers Development;

c) Institutes and special offices: Natural Sciences Institute, Foot and Mouth Disease Institute, General Agricultural Experiment Station, Veterinary Disease Institute, Livestock Raising Research Institute, Inland Fisheries Research Institute and Land Conservation Planning Office.

For completeness' sake, it should be mentioned here that there are also other institutes apart from the above, which are not independent but are part of the various services, such as Forestry and People's Agriculture which comes under the Agricultural Extension Service.

In this field of agriculture the first development plan (Kasimo Plan) was drawn up in 1947, which was extended in 1951 and expanded in 1954. The organization of development was also started in 1947, although on a small scale and often interrupted by the state of affairs prevailing at that time. In further execution of the plan, various types of difficulties were met of which the most important has been the financing. Financial allocations were uncertain from year to year and the amount was never known in advance. Apart from that, the amount allocated for a year was not known at the beginning of that year, and when revealed later, was subject to continuous revisions which generally resulted in cuts.

The system of work followed in the agricultural sector will be continued or at least attempted, if the risks are calculated to be not unusually great. Under the circumstances it is not surprising that various projects have been abandoned half completed. In spite of that, much has been achieved in this field.

Nevertheless, this risky working system which has had to be followed right from the beginning will give a broad basis for the future when work can be carried out more systematically. In the years to come, the financial potentialities and working capacities of the entire machinery with its various sections will become more apparent, so that the plans can be adjusted better to the circumstances and execution can be more systematic.

In addition to that, the financing of some of the most important projects already prepared is fixed for a period of five years. The plan has been adjusted to the appropriations provided and the personnel availab' and co-ordinated with the general economic reconstruction plan prepared by other sections of the State Planning Bureau.

The transfer of projects from the Ministry's complete Plan is based on the following criteria:

1. Projects that obviously can be carried out with personnel who are available and sufficiently qualified;
2. Projects which are urgently required to strengthen agricultural production;
3. Projects that promise success on the basis of past experience.

New projects that have never been tried before will be restricted to pilot projects in order to gain experience in that filed before expansion can be undertaken.

For a number of years, a large part of the apparatus of the Ministry of Agriculture has not been used to full capacity because of inadequate financing. It needs to be pointed out here that a change in the mentality of the farmer and the fisherman has given them a very dynamic outlook, their working abilities are abundant, so that development work could proceed more smoothly and extensively if there were sufficient credits available. Moreover the available work capacity in the Ministry of Agriculture can be used to great advantage.

Finally, it is necessary to mention here that the nature of expenditure for development in the agricultural sector differs somewhat from other fields such as manufacturing industry for example. Capital expenditures are relatively small, especially in "people's agriculture" and during the initial years it will be rather difficult to differentiate in some sectors between general development and this special five-year development plan.

II. A. Agricultural Extension Service

The nature and basic features of the work of the Agricultural Extension Service are as follows:

1. To carry out investigations, collection and processing of materials involved in people's agriculture in particular and in the rural economy in general,
2. To plan development in people's agriculture appropriate to the results of the investigations, the existing natural conditions and the potentialities and inclinations of the community;
3. To give information, guidance and assistance of a material, financial and moral character to farmers generally and to be community, which is greatly interested in the advancement of people's agriculture;
4. To arrange study courses to expand and increase knowledge of agricultural science.

Of its extremely extensive duties during the next five years, the most important function of the Agricultural Extension Service is to increase food production as much as possible, including vegetables and fruits. In addition, the cultivation of market crops (except smallholders rubber) for the purpose of raising the buying power of the people and the nation's foreign exchange income, must not be ignored. Of the market crops, ramie and cotton deserve special attention because 98% of Indonesia's needs of these products must still be imported from abroad. Apart from that, there are greater chances at present than a few years ago for large-scale cultivation of ramie and cotton and their processing.

The participation of the farmers is an absolute condition for the success of these efforts to increase the production of people's agriculture.

It is therefore indispensable that special training and mass education be given and also large scale extension service,

After giving this brief explanation, it is now possible to outline an urgency plan for the next five years in the light of our limited finances. This urgency plan consists of the following parts:

1. Eduction
2. Efforts to increase food production consisting of:
   a. distribution of improved rice, corn, pulses, vegetables, tuber-crops, etc. and seeds for fruit trees;
   b. manuring;
   c. expension of arable land through mechanization;
   d. erosion control and soil conservation efforts;
   e. mixed farming (agriculture and animal-stock raising).
3. Efforts for expansion of cultivation and processing of ramie, cotton, etc.

1. Education

a. Agricultural Senior High School (SPMA)

At the present time, each province maintains an Agricultural Senior High School; four of these are new, namely in South Sumatra, Kalimantan, Maluku and Lombok. For the time being, it is not necessary to increase the number of these schools, as ten schools are adequate to supply all the intermediate agricultural experts to the various government agencies, private industries, etc. Opening of more SPMA schools would require more agricultural teaching staff, which is rather hard to obtain at present. Because of this, it will be advisable to improve the existing schools in regard to both their teaching staff and equipment. For this

purpose, there should be provided an appropriation of Rp. 50 million to purchase lands, buildings, school equipment and the tractors and machinery necessary, such as water pumps, etc.

b. Traning courses and schools for farmers

This training, which takes the form of mass education, is now generally appreciated by the farming community, but not yet extended to all Provinces, especially those outside Java. For improvement in this field, extension and demonstrations, contests, trips, etc. must be conducted. It is estimated that Rp. 20 million in five years will be needed for this purpose.

c. Village community training center (B.P.M.D.)

If every year one additional B.P.M.D. in Java and two in the outer islands are given to each Province, then, for the next five years, 18 B.P.M.D.'s will be set up yearly. The appropriation needed for the new centers is Rp 3.6 million and for subsidies to 330 existing training centers Rp 6,000 each (hence the total required annually for this item is Rp 3.6 million + Rp 1.98 million = Rp 5.58 million per year). The total needed for five years is Rp 27.9 or in round figures Rp 28 million.

2. a. Distribution of improved seeds and seedlings

The cannels through which these seeds and seedlings are distributed are the nurseries, seed farms and horticultural experiment stations, contest fields and seed growers. The function of the nurseries and seed farms is to give information, demonstrations and distribution. For these projects there is needed annuallly an appropriation amounting to Rp 2 million or Rp 10 million for five years. A grant

for the existing seed institutes is Rp 12,000 per institute per year or Rp 2.7 million for all seed institutes per year totalling Rp 13.5 million for the five-year period. The total appropriation for seeds and planting material for the five years is Rp 10 plus Rp 13.5 million = Rp 23.5 million.

b. For manuring, Rp 17.5 million is needed for grants, contests, experiments in new places, etc.

c. Expansion of arable lands through mechanization

For this item there is needed Rp 45 million for the purchases of 100 tractors, equipment and operation costs for approximately 12,000 hectares of land.

d. For erosion control and improvement of the soil of approximately 140,000 hectares of land, an appropriation is needed for the five years of 140,000 x Rp. 250 = Rp 35 million.

e. Control of pests needs an estimated amount of Rp 20 million in five years.

f. Mixed farming, with experiments in five places at Rp 500,000 each per year is Rp 2.5 million per year or Rp 12.5 million for five years.

3. For the expansion of the ramie and cotton cultivation and processing, an amount of Rp 23.5 million is needed, including purchases made by the Central Purchasing Office to stimulate smallholders cultivation of these crops.

The total required for the Agricultural Extension Service is Rp 275 million.

B. Agricultural Experiment Stations

The Agricultural Experiment Station consists of the following Institutes:

1. Soil Research

2. Botanical
3. Agricultural Technique
4. Rice
5. Plant Disease
6. Makassar Branch

The total number of experiment stations and seed gardens before the war was 14; these have now increased to 35, which automatically require additional personnel and work space. Investigation in all fields needs expansion both at the Central Experiment Station and at the regional experiment stations.

Apart from endeavouring to provide all the food products needed (rice, corn, pulses, tuber crops), due attention is also given to commercial crops such as rosella, ramie, clove, cacao, coconut, coffee, tobacco, etc.

In regard to soil investigation, it is necessary that soil surveys and mapping should first be completed as a valuable source of information for transmigration, irrigation, agricultural and horticultural undertakings. The survey in Java which was started before the war is being completed and studies have been started in Sumatra and Nusa Tenggara. For speeding up laboratory soil investigations, renewal of the existing equipment is needed.

In an attempt to control yellow disease of pepper in Bangka and Billiton, the research must be extended into the influence of the stock on the scion. Rats, rice borers, artona scxava on coconut, phaedonia on soya-bean and phytophtora and bacterial diseases all require full attention. Similarly, the inspection of imported and exported plants is increasing and it needs expansion of the Plant Quarantine Service in keeping with the developments in air and sea navigation. The Plant Disease Institute buildings do not have rooms and equipment that meet with the standard requirements for the investigation of bacterial diseases.

Experiment stations that need rehabilitation and new investment are:

a. Coconut Research Institute in Mapanget (Manado) in order to permit resumption of activities in the most important coconut growing area in Indonesia;

b. Selection Garden in Rapang (Central Sulawesi);

c. Rice Selection Station in Bandjarmasin;

d. Rice Selection Station in Djakenan (Pati).

To complete and improve work "in the field" and the experiments conducted jointly with the Agricultural Extension Service which will increase the value of the field investigation work, it is necessary to appoint personnel for carrying out the experiments and keeping records of the tests thereof in the same manner as was done with the intensified rice selection. In addition, it is planned to set up permanent experimental plots.

For the execution of this plan, the priorities are as follows:

1. a. Completion of the Rice Institute in Bogor;

   b. Warehouse, drying place, office and residence of the manager at Purwakarta;

   c. Manager's house at Singamerta;

   d. Drying place, warehouse, office and manager's residence at Kendalpajak;

   e. Office, warehouse manager's residence at Djakenan;

   f. Office, manager's residence at Gentong.

2. Completion of rehabilitation at Mapanget, Manado

3. Cellar work-space in the Soil Research Institute and laboratory equipment

4. Cuttings cabinet at the Botanical Institute
5. Office and fumigation boxes for the Quarantine Service
6. Bacteriological Division at the Plant Disease Institute
7. Rehabilitation of the rice selection garden at Rappang (Macassar) and new investment in the rice selection station at Bandjarmasin
8. Permanent experiment stations: two in Java and five in Sumatra.

C. The Farmers' Movement

This plan aims at creation of the most extensive possible fields for development of the farmers' own initiative ("auto-activities") including young men and women farmers, in order that they may gradually and systematically carry on their work and have a sense of responsibility for all they do, in accordance with their way of thinking and of their way of doing things. It is essential for the Government to follow a systematic policy in preserving, guiding, assisting and protecting the growth of farmers' efforts toward reconstruction. The incorporation of farmers' activities into the Government plan is a policy that will lighten the financing of that plan itself.

The channels used by this Service in the framework of the Five-Year Plan are to activate community associations, joint efforts (korukunans, pagujubans), etc. in villages and townships, which are common and popular in the Indonesian society throughout the country. These associations will act in the first place as social units that will give birth to farmers' organizations according to their respective degree of development.

These projects include:

1. Development of farmers'unions
2. Training of farmers cadres for both men and women
3. Development of women's sections
4. Training of young farmers
5. Assistance programmes for farmers' unions
6. Credit system plan
7. Training of personnel

D. Estate Service

The duty of this service is to give broad supervision to large-scale estates and production of agricultural export production generally (except smallholders rubber). To give an idea of the importance of large estates in Indonesia, it must be remembered that approximately 30% of the entire Government foreign exchange income comes from this sector. Supervision of large-scale estates covers their maintenance and development, as well as matters involving agrarian questions, the labour situation and the estates finances. During recent years, there has been an increasing interest in the conversion of the structure of large estates into a national structure, among others by Indonesian enterprise. In this connection we mention the introduction of specialized studies in the Senior Agricultural High School on cultivation and management of estates and the training of sugar experts at the State Sugar College.

In accordance with this objective, much effort has been made in guiding and helping the development of smallholders' commercial agriculture; as an example, measures have been taken in this direction in respect to tobacco and smallholder sugar. For these two smallholders commercial crops, two organizations have been in existence for some years, the Indonesian Smallholders Plantations (Perrin) for tobacco and the Smallholders Sugar Cane Foundation (Jatra) for smallholders cane.

Apart from giving technical assistance and guidance, the Estates Service acts as an intermediary in obtaining credits for the two institutions.

To give a rough idea of the credit requirement of the two associations, it might be mentioned here that the amount of credits applied by them is around Rp. 200 million.

E. Smallholders Rubber Service

The condition of smallholders rubber gardens is pitiful; over 20% of them have been damaged and for the most part the trees are already too old and of low quality. If the gardens are left in their present condition and no measures are taken for improvement, their production will fall, as is the case at present. It must be remembered that smallholders rubber in Indonesia produces more than 30% of the entire Government foreign exchange income.

Development activities for the smallholders rubber in the framework of the Five-Year Plan are directed towards:

a. Replanting of 260,000 hectares of rubber plantations, which constitute approximately 20% of the estates and are no longer in production. The replanting must be completed in 10 years (from 1956 to 1965) with two years for the seedlings in the nursery gardens, so that in effect the programme will be finally completed in 1967. In the replanting programmes, emphasis is laid on the improvement of quality of the trees by using high quality varieties with a production of at least 1 ton dry rubber per hectare per year (the present average production is 1/2 ton dry rubber per hectare per year). By doubling the production per hectare, the operating

expenses will fall, which is an important factor in facing the competition of synthetic rubber.

The replanting programmes are as follows:

In 1956 :	13,000 hectares	In 1961 :	26,000 hectares
" 1957 :	13,000 "	" 1962 :	32,500 "
" 1958 :	19,500 "	" 1963 :	32,500 "
" 1959 :	19,500 "	" 1964 :	39,000 "
" 1960 :	26,000 "	" 1965 :	39,000 "

Each hectare needs 500 polyclone seedlings or grafts costing on average Rp. 2 per seedling (stump) or graft to be sold later to smallholders. The nursery programmes will need the following in ten years:

1956 - 1957	Rp. 26,000,000
1958 - 1959	39,000,000
1960 - 1961	52,000,000
1962 - 1963	65,000,000
1964 - 1965	78,000,000

The nursery expenses and subsidies for replanting are charged to the appropriations for the Five-Year Development Plan. (The total required for nurseries and subsidies for replanting over ten years amounts to Rp. 832,000,000).

b. To improve the quality of smallholders rubber, which consists at present of the qualities PSS V and IV, blankets D and C, flatbark and slabs. It is necessary that improvement is made here in the near future and may be included in the Five-Year Reconstruction Plan.

c. To raise the intellectual capacity of rubber farmers, who in reality play the main part in the process of development.

d. To expand and intensify information and guidance to rubber farmers generally.

e. To expand credit grants in the field of plantation improvement, processing and marketing of their production.

Rp. 60 million is provided for this sector which is already included in the Rp. 832 million referred to in sub-item (a) above.

F. Forestry Service.

The Forestry Service does not act merely as a Government Agency for the control and management of forests, but also as an industrial body that runs one of the biggest businesses in Indonesia, namely the state forests. Consequently, this Service has in the past absorbed over half of the entire expenditure chargeable to the appropriations of the Ministry of Agriculture, of which a large part returns to the State Treasury ad receipts of the Service.

In spite of this, the deficit is estimated to increase in the next ten years due to large amounts of capital investment in those years. But this Service will in the future become one of the main sources of income for the Government and the people. In 1955 for example, the Forestry Service's income exceeded its expenditures.

The majority of the Indonesian forests are natural forests, with very few varieties of great economic value. Apart from that, most of these forests are found in economically unsuitable places, such as on the islands outside Java and Madura. Hence the exploitation of these forests is restricted by the need for transport to regions along navigable inland waterways.

The only way to turn these forests into sources of valuable raw materials is to replace their trees by economically valuable types of timber, which may be used as raw materials in the manufacturing industries. Efforts in this direction have been started in Java on a large-scale; some of the varieties planted have long staples (i.e. coniferous trees), so the wood is valuable raw material for the manufacturing of paper and paper pulp.

In the past, the Government has concentrated its attention on the teak-wood forests in Java. Old trees have been felled and replaced by young trees, which grow into young prosperous and high yielding forests with an increasing production. Because of the large amounts of raw materials needed for the manufacturing industries, the Forestry Service just after the first World War conducted experiments with the cultivation of various species of timber apart from teak wood, among which were djabon, kemiri, albissia, falcata, agathis, pinus merkusii, acacia decurrens, etc. In East Indonesia where the dry season is severe, bamboos grow in abundance and can be used not only for building materials, but also as a raw material for paper manufacture.

Furthermore, it must be noted that the total area of forests in Java (both production and reserved forests) has now fallen below the minimum requirement (approximately 20 %) as a result of destructive felling of trees during the course of the second world war and of illegal occupation of forest lands by squatters. Ignoring the existing regulations in their hunger for arable lands, squatterss have illegally cultivated mountain slopes which should be kept protected by forests. Reforestation of these bare lands that have in the meantime become barren due to soil erosion, requires much time and money.

Forests serve two functions of conserving and producing. Conservation aims at improvement of hydrology and orology to prevent outbreak of natural disasters. Since the value of this protective function cannot be stated in terms of dollars and cents, capital investment in this field cannot be covered by income arising therefrom.

The productive function aims at the greatest possible production of valuable timbers, barks, resin, oil, etc. without damaging the natural growths of the forests, by planting economically valuable varieties that may be marketed or used as building and other industrial raw materials.

As far as possible the two functions should be combined, because many varieties of trees planted have the characteristics of conservation trees whose function may well compare with that of the natural forests.

The Five-Year Plan of the Forestry Service has in view the systematic conversion of the composition of the forests (which contain all kinds of unusable trees) by planting them with economically valuable varieties. It is only natural that at the commencement of the Plan no immediate profit can be expected but in the long run these forests will become a Government enterprise that will produce substantial income for the state.

Independent of fiscal and financial considerations, forestry industries supply large quantities of raw materials for large numbers of large industries that have an important role in the economic development of this country. Industries that greatly depend on forest products are:

1. Paper industry, which must be expanded to meet the increasing demand for newsprint and other writing material supplies, as a result of the increasing numbers of Indonesians who have learned to read and write, plus requirements for paper, cardboard, packing, etc.

2. Chemical industries that use hard (timber) fibers or cellulose for the manufacture of plastic goods, weaving yarns and a number of other important chemical articles.

3. Building and housing industries, including carpenter's shops for making furniture for houses, offices and public buildings.

4. Other industries that use wood as a basic raw material or auxiliary material, such as matches, building materials and furnitures from timber pieces and waste, packing material, triplex, industries producing parts of tools and equipment, toy industries, etc.

5. Tannin industries, especially those that use barks of mangrove and of acacia decurrens as their raw materials for supply of tannin to tanneries.

A number of the above-mentioned industries have been included in the industrial sector of the Five-Year Plan.

Before their maturity, the cultivated forests are already producing in the form of thinned out timbers, so that in emergencies raw materials are available at short notice. Cultivation of commercial timbers by the Forest Service has been utilised in the past to supply initial stocks for some industries of moderate size and pilot industries, pending additional supplies of stocks from new plantings. As a long-term consideration, the development plan for forestry must cover a period of ten years from the start of the programme.

On the basis of the survey given above, the reforestation programme already carried out has absorbed Rp. 250 million for planting 225,000 hectares of timber producing forests. In addition to that, some of the funds will also be used for cultivation of commercial timbers in non-forest areas, especially on Government lands, village lands and waste-lands, for production of fire wood, packing materials and building materials.

The reforestation programmes will employ the available personnel who are already sufficient, so that there is no need for additional workers. But their assignments must be reviewed in order to effect some rationalization in the use of personnel with training and those with elementary education, of which there are large numbers. For efficient exploitation of the forests, narrow-gauge trains or wire-railway transportation is needed. Some of this equipment (tractors, bulldozers and their equipment) must be imported from abroad.

The cultivated forests are therefore able to produce valuable raw materials needed in the framework of the economic development of Indonesia and the forestry offices have adequate trained personnel, who may well be considered capable of carrying out their responsibilities as specified in the Plan.

The amount provided for this Service is Rp. 300,000,000.

C. Veterinary Service

The position of livestock in Indonesia has a dual character. In agriculture, cattle play an important part as plough cattle (cattle, buffaloes and horses). Moreover, all kinds of animals (large and small animals and poultry) are a source of animal protein of great food value. There are also cows, of which a small portion have a special place as producers of milk. The cattle contributes also to the supply of manure for agriculture.

The duties of the Veterinary Service cover a chain of sundry projects which may be grouped into three broad classifications, namely:

a. To follow developments in livestock raising affecting the number and quality;

b. To control and prevent the spread of contagious diseases;

c. To keep watch on the veterinary hygiene of animal foods, such as milk, meat, etc.

The above duties are closely interwoven and cannot be separated.

Development of livestock raising cannot be ensured if various kinds of contagious diseases that constantly recur in Indonesia cannot be effectively controlled. Furthermore, the import of animals from foreign countries must be subjected to rigorous inspection under quarantine regulations with the object of preventing the entry into Indonesia of any animal with contagious disease. These duties are performed by the veterinary surgeons of the Veterinary Service. Serum and vaccine are supplied by the Animal Disease Institute in Bogor. In addition to these three technical duties, the Veterinary Service establishes the allocation and quantity of animals for slaughter at different places.

In developing the live-stock industry the Veterinary Service performs various duties, the most important of which are:

1. To provide high-quality breeding animals imported from abroad (milch cows, horses, hogs, goats, sheep, poultry) and domestic breeding stock to be crossed with farmers' stocks;
2. Selection of farmers live-stock;
3. To protect female-breeding stock against slaughtering (cows and buffaloes).

The supply of imported breeding-stock is still below requirements. Consequently, the decrease in the milk production cannot be overcome. It is considered necessary to import new supplies of breeding-stock in as short a time as possible. The plan is to import:

200 milch cows
25 Arabian horses
100 hogs
1000 poultry

and to buy good domestic stocks as follows:

1500 Ongole cows from Sumba
5000 Bali cows.

Improvement of fodder

It must be admitted that the fodder stocks in Java (where 70 % to 80 % of the entire Indonesian live-stock are found) have declined greatly. The inadequacy of arable lands and the high degree of density of its population result in almost every piece of available land owned by the farmers being cultivated for man's food production. Therefore the possibilities of expanding live-stock raising are very limited in Java.

However, there are some places with extensive arid lands that have been abandoned by the owners but which might be used for cultivation of additional animal fodder by planting them with various kinds of plants and grass.

Such activities are very useful from the viewpoint of soil conservation.

Therefore, within the framework of the development plan it is planned to use those lands for production of additional fodder. The purpose of laying out nursery gardens for cultivation of high-quality grasses, such as leguminosa, etc., at the various breeding stations throughout the country is intended to supply improved planting material to farmers.

In addition, there are still extensive lands which are unfit for agriculture such as swamps, where good fodder grasses always grow. By way of hay-making this grass can be stored as fodder and the fodder supply can thus be expanded. In Java a fodder supply project has been planned in Bangil (East Java) where an extensive area of approximately 1,500 hectares of lands has been made available for the Veterinary Service.

Outside Java similar project will be started on the island of Sumba for the raising of the well-known native cow Ongole. Good grass is always available on that island in large quantities during the rainy season. But

in the dry season the island always faces difficulties in providing its animals with fodder. The urgency programme for Sumba is intended to produce fodder crops for export animals, which total approximately 7,500 per year. With the availability of good rice straw at all times for export animals, there is no fear of lack of fodder for them.

Equipment of the milk centre

The equipment of some of the government milk centres has not as yet been improved. As a consequence the production and collection of milk in the said centres has not as yet been enlarged as previously hoped.

As an example, the Grati Milk Centre (in East Java) is only able to produce 1,500 litres of milk per day. If this project can be equipped with milk preservation equipment (pasteurization, condensation etc., of milk) an increase of milk production can be guaranteed.

These projects are also directed towards stimulation of co-operative activities among dairy farmers.

H. Central Veterinary Research Institute

The Central Veterinary Research Institute in Bogor is a centre of applied research. The branches act as production units and where necessary conduct investigations that could not be carried out in the Central Research Institute, because of soil and climatic conditions. Such investigations are conducted under the direction of the Central Institute.

Objects and work now under investigation, which must be carried further by the various institutes are :

a. General Veterinary Technical Institute

1. Investigations on acclimatization of live-stock;

2. Investigation of the problem of pasture lands;

3. Investigation of animal stables;

4. Investigation of artificial insemination and manufacture of solution for liquification of sperm by way of deep-freezing;

5. To lay out sample pasture lands at places available.

b. Animals Research Institute

c. Poultry Research Institute

d. Animal fodder Research Institute

e. Animal and Industrial Material Research Institute

f. Mixed Farming Research Institute

g. Veterinary Chemical Research Institute

h. Veterinary Research Institute Branch at Grati.

In co-operation with other Government Agencies and institutions, to conduct investigation on mixed farming.

I. Central Institute for Animal Diseases

The duties of this Institute since its establishment have been: investigation, prevention and control of contagious animal diseases in Indonesia. Prevention of contagious diseases includes not only measures for preventing the entry of such diseases into the territory of Indonesia, but also efforts for immunization of animals against outbreak of contagious diseases in Indonesia by means of vaccination.

The methods followed for controlling disease are by serum injection, chemotherapeutics and antibiotics. Moreover, the Institute finds ways and means to facilitate limitation of diseases by means of serology and preparation of diagnostics such as malleine, tuberculine, etc. The Central Institute for Animal Diseases is responsible for the supply of veterinary constantly mounting requirements to safeguard the health of the live-stock in Indonesia.

Production and supply of anti-sera and vaccin run smoothly both for the regions which suffer from outbreak of contagious disease (for the control of the disease) and for those where the disease emerges periodically (as preventive measures). The new Castle disease (pseudo-vogelpest), which carried off hundreds of thousands of poultry before world war II and which caused millions of rupiahs worth of damage to the poultry industry, almost resulting in complete closing down of all poultry farms, has not been so destructive since the war, thanks to the availability of effective vaccin. The poultry industry can now develop again.

Before the war the control of rabies consisted merely of police regulations. During recent years and as a result of developments abroad the Research Institute for Animal Diseases has succeeded in creating a vaccin against rabies and preventive injection can now be performed on dogs on a scale which is still limited by inadequacy of equipment for large-scale production of vaccin. A stream of applications have been received from various regions for the vaccin and many of them have to be turned down. With the establishment of the Virus Institute started already at the end of this year, it is hoped that numerous difficulties can be overcome.

J. Institute for foot and mouth disease

Foot and mouth disease is a disease primarily of ruminant animals which breaks out each year in Java and Madura. After the war it also appeared in Sumatra.

The damage done by this disease cannot be expressed in exact figures and can only be estimated as follows :

a. Deaths and losses among baby animals (because their mothers are unable or have lost the capacity to supply them with milk and therefore cannot feed them because of the disease), damage due to inability of female animals to reproduce after suffering from

the disease and sterility on the part of the sires, damages suffered by farmers from late cultivation of their lands, the loss of thousands of liters of milk each year, etc. cannot be calculated.

b. The loss of weight caused by the disease among animals set aside for slaughtering (a loss of 20-60%) and the loss of capacity among draft and plow animals is roughly estimated at Rp.13,000,000 per year.

The plans of the Institute are:

a. Manufacture of vaccin for foot and mouth disease and efforts to find improved and more economical methods of manufacture;

b. Identification of the types of foot and mouth disease found in Indonesia.

In connexion with these efforts, two Indonesian veterinary doctors will be sent to Holland this year at the expense of the FAO, in co-operation with the Institute for Foot and Mouth Disease, to study the method of manufacture of vaccin and identification of virus families.

K. Sea Fisheries Service

The only means to increase sea fishery production rapidly is to increase the catch of each fisherman by means of mechanization of their fishing boats. As this must be effected on a large-scale, it will mean an entire change of culture pattern from sailing boat to mechanized fishing boats. In facing this mammoth task, it can be seen that initially the difficulties connected therewith can only be overcome, if at all, with great difficulty, since in the first place the Service is very young in age and lacks experience in this field and secondly because of the limited scope of its finances.

The mechanization of sea fisheries was first planned in Jogjakarta in 1949 and 20 motorized fishing boats were completed in 1951. The number of motorized fishing boats at present is about 700, of which 350 were built with Government finance.

The following is a tabulation of sea fishery production in the past:

Year	Production in tons	value in 1000 rupiahs
1940	315,000	31,500 (guilders)
1951	328,835	Rp. 1,681,873
1952	365,131	1,666,135
1953	375,102	1,541,425
1954	400,995	1,701,671
1955	411,775	21,146,225

The production in 1955 was enough to cover only 1/3 of Indonesia's requirement of fish. To raise Indonesian sea fisheries to a higher level, it is necessary that the Government devote more attention to the sea fisheries industry. Hence, it is further necessary that the organization of the Fisheries Service as a Government executive body is improved and better equipped.

Sea fish production can only be increased substantially if the method of fishing is more efficient and carried out on a scientific basis. And this is possible if investigations are conducted in the field of fishing technique, followed by well-planned and proper experiments that require sufficiently well-equipped sea fishery stations located over the whole archipelago. Training of personnel and fishermen to be engaged in the sea fisheries industry should have a priority of execution because of the great lack at present of trained sea fisheries personnel.

In addition, fishermen need material assistance from the Government because of their weak economic position and for the purpose of raising their business to a higher level. In this connection, it might be mentioned here that the credit so far granted by the Government is far below the requirement. Apart from endeavouring to increase the catch, it is also the duty of the Sea

Fisheries Service to develop a prosperous fishing community. Therefore, the development of the fishermen's organizations, especially those of co-operative character, is continuously encouraged and guided. The present fishermen's co-operatives, which already approach 250 in number, play a very important role in the promotion of the fishermen's prosperity.

One of the drawbacks to the efforts to raise fish production is the lack of efficient communication, transport and conservation equipment. It is evident that all efforts for intensification and modernization of the sea fisheries industry for production of surplus fish in one region will be useless and detrimental to the interest of the fishing community if there is no means of transport available for immediate transportation of the surplus catch to the deficit regions. The areas therefore which are potentially very rich in fish such as those in Maluku, Sulawesi, Kalimantan, etc. cannot be exploited to advantage as hoped while we lack the required equipment and as long as the problem of transportation is not solved.

One of the means to eliminate these difficulties is to exercise proper control on fish production. This item has been included in the execution of sea fisheries programmes in the past.

As a step toward the laying the foundations for modern sea-fisheries, preparations were started in 1955 for the execution of a Fisheries Community Project in Kota Baru on Pulau Laut (South Kalimantan). This project covers a chain of activities, including such objects as cannery, ice factory, ship-yard, salting and drying works, net factory, etc. In addition, a vocational training center will also be established there, so that the Kota Baru Project can also be used as a center for training of both the Service's personnel and fishermen. It is hoped that some parts of the project such as the cannery can be put into operation before the end of this year.

It must be noted that the Government's investment of capital in the sea fisheries sector does not aim merely at increasing the production of primary foods, but will also have beneficial effects through the additional functions of the sea fisheries in developping the maritime and defence aspects of the national economy: the water resources in the sea will constantly open possibilities for new businesses.

The conclusion can be drawn from the above explanation that the organization and the know-how of the Sea Fisheries Service are completely inadequate for the present level of reconstruction work and in the framework of the Five-Year Plan the following aspects need primary attention:

1. A means for granting credit to the existing sea fisheries to promote their business, accompanied by establishment and guidance of fishermen's organizations.
2. Mechanization of the sea fisheries.
3. Establishment of sea fishery projects to speed up development of the sea fisheries, such as canneries, freezing factories, fish-flour factories, fish transportation, etc.
4. Service for the above.

Priority is being given by the Fisheries Service to equipping organizations, experimental investigations and to training of personnel, in order to guide and control the development of the sea-fisheries industry along the most suitable lines.

For the Sea Fisheries Service there is provided an appropriation of Rp. 80 million.

L. Inland Fisheries Service

The inland fisheries in Indonesia cover an area of at least 10 million hectares, consisting of fish-catching and fish-breeding fields. The production during the last 5 years has averaged 224,000 tons per year or 22 kgs. per hectare per year. If we observe that the production of Lake Toba during the last five years amounted on average to 600 - 700 kilograms per hectare and fresh-water fish ponds produce about 1.000 kilograms per hectare per year, the average yearly inland fish production mentioned above for the whole of Indonesia is extremely low and is far below the country's productive capacity.

There are areas with modern methods of inland fish production, but there are also regions where the inland fishery industry is still primitive and still therefore offers great possibilities for improvement. In view of the extent of land suitable for inland fisheries that has so far not been utilized and waters that have not been properly exploited for lack of trained personnel and transportation facilities, the possibilities of expanding the inland fisheries are still great.

Large-scale fishing is generally conducted in thinly populated areas so that there is a surplus fish production which need to be transported to densely populated regions. Fish breeding is generally carried on intensively in densely populated regions. Although there is greater chance of raising a higher fish production increase in the catch areas, the importance of improving the fisheries in the breeding areas is just as important viewed from the social and economic angle.

Problems and activities connected with fish catching are: opening of public waters, protection of sources of fish, planting, catching, conservation, distribution, transportation of material and fish. Those connected with fish breeding are: hatcheries, improvement of water supply, expansion, distribution of hatches, materials, rehabilitation, prevention and control of dangers.

Construction of hatcheries through the country is considered highly important for distribution of hatches (young fish) and introduction of new species. By increasing the supply of hatches fish production will increase accordingly.

For large-scale marketing of fresh-water fish, it is necessary to increase the facilities for conservation, transportation and marketing, all of which will help decrease their price.

M. Inland Sea Fisheries Research Institute

The duties of this Institute are to conduct investigations in the fields of biology, hydrology and inland fisheries. This Institute collects and prepares materials for the work of the Inland Fisheries Service.

From the results of experiments and investigations conducted by expert and experienced biologists, practical information and guidance for improvements in all fields of inland fisheries are supplied to the Inland Fisheries Service for further extension to fish breeders in fish ponds and paddies and to fishermen in public waters.

The equipment of this Institute is far from adequate. Apart from its regular duties, therefore, the Institute will concentrate attention on completion of its equipment, establishment of new stations (in South Sumatra, South Kalimantan and South Sulawesi) and on adequate means of transportation.

N. Central Natural Sciences Research Institute

The Central Natural Sciences Research Institute consists of twelve independent scientific institutions and with their own separate histories, viz:

1. Herbarium Bogoriense
2. Flora Malesiana Institute
3. Treub General Botanical Institute
4. Microbiological Institute
5. Hortus Botanicus (Bogor, Tjibodas and Purwodadi)
6. Zoologicum Bogoriense Museum
7. Marine Research Institute
8. Bogoriense Zoologicum Library
9. Natural Preservation Institute
10. Photographical Institute
11. Biological Academy
12. Natural Science Institute "Sotianulja" (near Padang)

This group of institutes conducts basic research work and gives semi-academic scientific education in natural sciences (Botany, Zoology, Oceanography and Microbiology) for practical purposes (agriculture, horticulture, forestry, parks, natural reservations, veterinary, fisheries and medicine).

In carrying out its scientific duties, the Central Natural Sciences Research Institute relies also on voluntary international co-operation, whereby exchanges are effected of plant materials, of animals and publications; it also receives assistance of a large number of scientists from scientific institutions throughout the world. These duties continue an old tradition

established since the foundation of the Institute in 1817, i.e. publication of literature of international reputation about inland as well as sea flora and fauna, that are found in and around the territorial waters of Indonesia. Publications and articles are exchanged regularly with large numbers of scientific institutions throughout the world.

Appropriations for research work amount to Rp. 3,924,500 per year or Rp. 19,622,500 for five years. In the framework of the 1956-1960 Five-Year Plan besides, the following projects need priority execution:

1. To continue and complete construction of Biological Academy buildings ..... Rp. 4,400,000

2. To extend and complete construction of Biological Laboratory ..... Rp. 6,050,000

3. To continue the construction of the building complex of Herbarium Bogoriense ..... Rp. 200,000

4. To continue repairs to Museum Zoologicum Bogoriense ..... Rp. 320,000

5. Major repairs to research rooms of the Central Institute ..... Rp. 495,000

6. To construct residences for expert personnel in Bogor, Tjibodi, Purwodadi, Pasar Ikan and Padang ..... Rp. 1,700,000

Total ..... Rp. 13,165,000

Thus the total appropriations for the development work of the Central Natural Sciences Institute for the five-year period from 1956 to 1960 amounts to Rp. 32,787,500. Because of the financial condition of the Government, it is possible that only part of this programme can be carried out.

C. Land Utilization Office

Rotation and use of lands in this country have not been properly arranged and are a very complicated problem. Incorrect allocation (not in accordance with the physical condition of the land) and disorderly use of lands in various regions have damaged land reserves, water and forests through soil erosion, sedimentation, difficulties of drainage, drying up of rivers, etc. These gradually extend to other places and increase the danger of floods during the rainy season or lack of water during the dry season.

Proper maintenance of these reserves is extremely important for they are a fundamental factor in development and expansion of agricultural and manufacturing industries and general development of the national economy. As a consequence of disorderly allocation and wasteful use of land, arable lands gradually decrease. Apart from that, lands that have been continuously used for agriculture or as pasture lands have deteriorated in production, because of over-exploitation and over-grazing. Furthermore, reserve lands are generally not so fertile, while in various places the lands must be improved first before they can be used for agricultural industry.

In connection with the efforts being made towards development both now and in the future, the importance of preparations for investigation of the soil condition and its possible use is obvious. The knowledge of the potential capacity of land is an absolute condition for planning. In view of the pressing need for basic information for planning and the limited number of expert workers available, accurracy in the investigations must unavoidably be sacrificed for the time being, so that a mere classification of the land reserves concerned can be obtained, however rough it might be.

The first steps in the investigation are to make inventories and maps of the soil, complete with the information required to determine:

1. Which lands must be kept as forest lands and which lands may be allocated for agriculture and/or live-stock raising;
2. Which lands are to be considered as critical areas that will be lost to agriculture and live-stock raising because of soil erosion, due to incorrect use conflicting with its physical condition;
3. Within the agricultural and live-stock raising lands, to determine the method of use of land areas in agreement with their production capacity and their proper maintenance (land capability classification).

Such classification and the preparation of improvement and maintenance plan should be completed as soon as possible. This requires collection of information concerning land reserves for agriculture, live-stock raising, fisheries and forestry.

Parts of the planned projects are directed towards investigations on allocation of the lands mentioned above to make improvement and soil conservation possible, to guarantee permanent and good production capacity, so that it may serve as a basis for sound and profitable agricultural and live-stock industries. In this way, the use of lands will no longer create damage on soil, forest and water supplies resources. These projects too have been adjusted to other existing programmes, among which are flood control on the Brantas River, Asahan Project, Tjitarum Project and Trans-migration Project at Sukamenanti (Sumatra).

Another part is directed towards investigations into the improvement and proper use of dry lands on the basis of the principles of soil and water conservation.

In those fields, the Forestry Service, Agricultural Extension Service, Veterinary Service, General Agricultural Experiment Station and the Land Utilization Office co-operate and work in co-ordination on these projects.

III. Education

The following projects are vitally necessary:

1. To consolidate schools and training courses of the various services of the Ministry of Agriculture.

2. To increase as far as possible the number of:

a. Farmers Training Schools outside Java and Madura;

b. Training courses that may improve the standard of living of farmers, fishermen, etc.

3. To open new training courses, inter alia:

a. Sea Fisheries Secondary School and/or Sea Fisheries Academy;

b. Inland Fisheries Secondary School and/or Inland Fisheries Academy;

c. Farmers Secondary Training School.

4. Other efforts inter alia:

The Ministry of Agriculture and the Ministry of Education together effectuate the agricultural education plan at the Elementary Schools and Secondary Schools as has been recommended in the report of the Agricultural Education Planning Committee. Lessons in the Secondary Schools must be adjusted to the requirements of further education at the universities and the graduates of secondary schools should be given the chance to continue their studies after some practical experience.

5. To provide the need for qualified personnel required for effective execution of the plan, funds are provided for:

a. The import of scientists, instructors and qualified personnel;

b. Sending Indonesian youths abroad for studies longer than two years.

IV. Credit System

An adequate and well-organized credit system is a primary factor in the fields of agriculture and fisheries. In the interest of the financially weak farming community, it is considered necessary to create a credit system intended especially to serve this community, in view of the irregular changes in seasons or failure of crops by attack of some disease or pest. The same is also true of the fishermen's community; it is in urgent need of separate credit system in view of the capital intensive character of their work and the great risks run.

Apart from that, co-operative organizations established by the farmers and fishermen in those two fields will be given sufficient guidance and assistance by the Government.

V. Co-ordination

1. In view of the need to adjust the measures taken with development of the community and of the progress of time, both basic and applied research works need close attention and intensification and must be carried out with all energy.

2. Closer and more systematic co-operation must be effected between institutes and departments as well as within the institutes and departments themselves, to maintain close relations with regard to research and practice. Good examples of past co-operation which still need to be completed are:

a. The problem of cattle fodder in Java, Madura and other islands that are short of fodder and water;

b. The problem of use of agricultural equipment and material;

c. The problem of mixed farming;

d. The problem of soil and water conservation.

VI. Conclusion

As works of the Ministry of Agriculture are a continuation of past activities and for the most are in the process of execution, the choice of projects for the Five-Year Reconstruction Plan must be adjusted to existing conditions. It must be also remembered that in the field of agricultural construction, there should be co-operation between the Government and the farmers. Apart from that, the ratio of investment and other expenditures varies somewhat from that in other sectors.

Of the entire appropriations for the Agricultural sector, which amounts to Rp. 1,044 million, appropriation for the Agricultural Extension Service has been definitely fixed at Rp. 275 million, for the Forestry Service Rp. 300 million, for the Sea Fisheries Service Rp. 80 million, for the Central Natural Sciences Institute Rp. 32 million, whereas the amounts for other Services, Institutes and Offices, the capital investment appropriations are merely estimates and must be decided further.

The amount of foreign exchange required for the Five-Year Reconstruction Plan for this sector amounts to Rp. 208 million or approximately 20% of the entire sector's appropriation.

VII. Estimated Five-Year Plan Appropriations

Service/Institute	Rupiahs	Foreign exchange
A. Agricultural Extension Service	275,000,000	44,240,000
B. General Agricultural Experiment Station	41,267,000	6,320,000
C. Farmers Efforts Development Service .	-	-
D. Estate Service	-	-
E. Smallholders Rubber Service	60,000,000	9,480,000
F. Forestry Service	300,000,000	48,980,000
G. Veterinary Service	24,860,200	4,740,000
H. Central Veterinary Institute	12,430,100	3,160,000
I. Institute for Foot and Mouth Diseases	12,430,100	3,160,000
J. Central Animal Disease Institute	12,430,100	3,160,000
K. Sea Fisheries Service	80,000,000	12,640,000
L. Inland Fisheries Service	77,734,000	12,640,000
M. Inland Fisheries Research Institute .	5,000,000	1,580,000
N. Central Natural Sciences Institute ..	32,165,000	4,740,000
O. Land Utilization Office	20,683,500	3,160,000
	954,000,000	158,000,000
Funds for personnel affairs and education	50,000,000	50,000,000
Contingencies	40,000,000	-
Total appropriation	1,044,000,000	208,000,000

CHAPTER 5

I R R I G A T I O N

Introduction

The Five-Year Irrigation Plan consists not only of projects in the special field of irrigation but also of projects that have connexion with other fields such as flood control prevention, drainage and generation of electricity - projects that have a number of functions and can therefore be termed multipurpose projects.

A. Fundamentals of Plan

The bases used in the preparation of the Plan are adjusted to requirements in the field of agriculture especially to the production of rice as a staple food. With an estimated increase of population of 1.7% per year, the total of population of Indonesia in 1960 will become 89.8 million people.[x]

Rice production in 1955 amounted to 7,126,329 tons[xx] and the amount of rice imported in the same year was 126,983 tons, making the total available for that year of 7,253,312 tons of rice. As this total was enough for consumption of the entire population, the per capita consumption per year is therefore 7,253,312,000 / 82,500,000 x 1 kg = 87.8 kilograms or (rounded) 88 kilograms, or 241 grams rice per day. In addition to that, 1.9 million tons of corn were produced in 1955 or 60 grams per capita per day. As the requirement basis of 300 grams per day (rice and corn) is too low, the Five-Year Plan provides a consumption of 250 grams of rice plus 70 grams of corn per day. This means that the production target in 1960 will be 89.8 million x 0.091 ton = 8.172 (or rounded 8,2) million tons per year. Corn production is to be increased from 1.9 million tons in 1955 to 2.3 million tons in 1960. The increase in rice production in the five-year period should be: 8,200,000 tons - 7,200,000 tons= 1,000,000 tons or 200,000 tons per year

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x See chapter on Population.
xx According to figures of the Central Bureau of Statistics.

Of this increase of production, 2/3 or 666,000 tons will come from wet rice fields and the rest or 334,000 tons from dry rice fields. On the basis of average rice production in wet rice fields of 1 ton per hectare and of 0.75 tons on dry field, the expansion of the wet paddies should be $\frac{666.000}{1.00}$ x 1 hectare = 66,000 hectares. Such an expansion is almost an impossibility. Therefore, the efforts for increasing the rice production must be directed also to the increase per hectare productivity of the existing paddies by using more fertilizers and higher producing rice seeds.

Other problems that directly or indirectly have a great influence on agriculture and that have a close relation with irrigation are the dangers of floods, wich impose great damage to the economy. To a certain extent, efforts in irrigation will also be able to bring about improvement in those problems.

B. The Development Plan

In view of the limited number of expert and experienced personnal for the execution of the whole projects or for execution of planned projects or for the supervision of their execution, the irrigation expansion programmes cannot be executed in their entirety and approximately 25% of the rice fields that ought to get irrigation water will be attended to. This does not mean that the rice requirement will not be sufficiently provided because, in addition to irrigation, there are other measures for increasing production, especially the increasing of the yield per hectare, a matter which falls within the scope of the Agricultural Extension Service.

New rice fields will be laid down outside Java where the potentialities are great. As has been mentioned in the Introduction, among the projects planned are water reservoirs that will have a double function of flood prevention and electrical energy generation, such as the one projected for the Mahakam area in Kalimantan. Water ways in Kalimantan and Djambi will

according to plans also have a double function, as an improvement of water supply to surrounding lands so that such lands can be made into wet rice fields and as inland water ways for prau and small boats.

It must be observed here that this development plan has been adapted to the Cabinet programme of paying more attention to the interests of Provinces outside Java. Some 62% of the budget for irrigation for the Five-Year Plan, which amounts to Rp. 940 million with a contingency of 10% (Rp 100 million) and foreign exchange of Rp. 204 million with a Rp. 30 million contingency, is provided for irrigation projects outside Java. Apart from that, the Five-Year Plan is prepared so that the reconstruction work is spread over the whole country.

List of Irrigation Projects

Province	Name of Project	Area of irrigated fields in ha.	Specification of work to be carried out	Estimated cost (in million rupiahs)	Estimated realizable cost (in million rupiahs)
North Sumatra	1. Gunung Tua Irrigation (Padang Lawas) Residency Tapanuli	25,000	Land measuring and soil investigation, preparation of projects and later execution thereof		
	2. Bt. Gadis Irrigation in Residency Tapanuli	4,000			
	3. Bt. Angkola Irrigation in Residency Tapanuli	5,000			
	4. Djouram Irrigation in Atjeh	7,000			
	5. Paja Dapur Irrigation in South Atjeh	5,000			
	Total	46,000		138	90

	Name of Project	Area of irrigated fields in ha.	Specification of work to be carried out	Estimated cost (in million rupiahs)	Estimated realizable cost
...ml ...ntra	1. Bt. Tongar Irrigation in West Sumatra	12,000	Land measuring and soil investigation, preparation of projects and later execution thereof		
	2. Bt. Sumpur Irrigation West Sumatra	20,000			
	3. Bt. Bathan Irrigation East Sumatra	13,000			
	4. Irrigation in Djambi	20,000			
	Total	65,000		195	90
...h ...ntra	1. Continuation Irrigation of Way Sekampung, Res. Lampung	60,000	- do -		
	2. New Irrigation Way Seputih in Residency Lampung	14,000			
	3. New Kungku Irrigation Musi Ulu Regency, Residency Palembang	60,000			
	Total	134,000		402	130
...rntan	1. Control of Negara river by construction of 2 water reservoirs at S. Tabalong and Balangan, Hulu-sungai Regency, South Kalimantan as a multi-purpose project (flood control, irrigation and hydroelectric power) with an estimated cost of Rp.300 million. Amuntai regions and surrounding will be protected against floods and rice fields in the surrounding saved and new paddies laid out at least	100,000	- do -		
	2. Construction of connecting channel in South Kalimantan also as a multi-purpose project for water-ways between Sampit and Bandjarmasin and for opening new rice				

...nce	Name of Project	Area of irrigated fields in ha.	Specification of work to be carried out	Estimated cost	Estimated realizable cost
				(in million rupiahs)	
...limantan (cont'd)	fields in the surrounding of the canal of the 180 km length of the waterways. 150 km must be dug as canal width 20 meters depth 4 meters with total estimated cost of Rp 75 million	75,000	Land measuring and soil investigation, preparation of projects and execution thereof		
	3. Construction of drains for drainage of swamps for rice fields in the S. Tolaksi area near East Kalimantan total expenditures estimated at 20 million Rp	20,000			
	4. Construction of canals to drain swamps for rice fields in Pontianak Valley, west Kalimantan total estimated cost Rp 20 million	20,000			
	5. Sanggau-lodo Irrigation in West Kalimantan cost Rp 16 million	6.000			
	Total expenditures for the above five projects	221,000		433	180
Sulawesi	1. Continuation of irrigation of Sadang. Parepare Regency	30,000	- do -		
	2. Continuation of Kalkuna Irrigation in Palopo Regency	24,000			
	3. Dorugo Irrigation in Bolaangmongondo Regency North Sulawesi	16,000			
	4. New Kolorai Irrigation in Bonthain Regency, South Sulawesi	12,000			
	Total	82,000		246	70

ce	Name of Project	Area of irrigated fields in ha.	Specification of work to be carried out	Estimated cost (in million rupiahs)	Estimated realizable cost (in million rupiahs)
ka	1. New Djailolo Irrigation in Halmahera	4,000	Land measuring and soil investigation, preparation of project and later execution thereof		
	2. Kairatu and Amahai irrigations in Ceram Barat	5,000			
	Total	9,000		27	20
r-Tenggara	A number of projects on the islands of Bali, Lombok, Sumbawa, Flores and Timor (no specification)	3,000	- do -	10	10
t Jawa	1. Control of Brantas River by construction of a water reservoir on the Brantas River near Pagadjih as a multi-purpose project to prevent floods and generation of electric energy at an estimated cost of Rp 200 million				
	2. Completion of the Samporbaru project in the Bondowoso area for paddies with an estimated cost of Rp 36 million.				
	Total for the two projects	12,000		236	145
tral Jawa	1. Completion of Tjatjaban water reservoir for additional water supply to wet rice fields for cultivation of padu rice and secondary crops. Of the total cost of Rp 60.8 there is still needed Rp 18 millions to complete the project in 1957	28,600	- do -		
	2. Construction of a new Sampor reservoir at Gombong as a multi-purpose project for flood control and additional water supply to wet rice fields for cultivation of padu rice and secondary crops with an estimated cost of Rp 30 million	10,000		48	48
	Total for the 2 projects	38,600			

ince	Name of Project	Area of irrigated fields in ha.	Specification of work to be carried out	Estimated cost	Estimated realizable cost
				(in million rupiahs)	
t Java	1. Irrigation from Djatiluhur reservoir as a multi-purpose project (flood control irrigation hydroelectric power) for gadu rice as the first state. Cost Rp 240 million	80,000	Land measuring and soil investigation preparation of projects and execution thereof		
	2. Completion of Darma reservoir, Kuningan for additional water supply to wet fields for cultivation of gadu rice, at an estimated cost of Rp 20 million	36,000			
	Total	116,000			
	3. New irrigation, West Tjisadane already started in 1955 for completion needed Rp 30 million	12,000	- do -		
	Total for the 3 projects	128,000		290	145
Jogjakarta	Continuation of Kalibawang irrigation in Progo	8,000		22	22
	GRAND TOTAL	746,600		2,047	940

Recapitulation

Province	Area of irrigated fields (in ha.)	Estimated cost (in million rupiahs)	Estimated realizable cost (in million rupiahs)
North Sumatra	46,000	138	90
Central Sumatra	65,000	195	90
South Sumatera.....	134,000	402	120
Kalimantan	221,000	433	180
Sulawesi	82,000	246	70
Maluku	9,000	27	20
Nusa Tenggara	3,000	10	10
East Java	12,000	236	145
Central Java	38,600	48	48
West Java	128,000	290	145
Special territory of Jogjakarta	8,000	22	22
Total	746,600	2,047	940

CHAPTER 6

M I N E R A L R E S O U R C E S

General review of the importance of evaluation of mineral resources in their relation to Economic Development Plans

The role of resources in general plannings

Economic development is very closely related to Government structure, trade, political situation, financial situation and the capability and preparedness to carry it out. Before any plan is drawn for the purpose of execution, the fullest possible inventory must first be made of the sources of wealth. This is necessary for the evaluation of the resources.

These investigations are conducted in a number of stages, commencing with a report of general character concerning the entire territory being appraised and continued with collection of special information. After this stage, a more thorough investigation must still be made.

A. GENERAL PROBLEMS

1. Non-renewable resources

The importance of these resources for industrialisation is acknowledged fully. But in fact it is not clear how far the availability of such resources is indispensable for the success of an industrialisation programme. Even in the broader sense of the word "industrialization", it is doubtful whether these mineral resources are a limiting factor, if other advantageous factors are found as their substitutes. It is therefore extremely important that more exact information is collected concerning exhaustible and non-renewable resources under an investigation plan based on new systematic techniques.

Special problems concerning minerals

The special problems of the mining industry may be summarized as follows:

a. Minerals are fixed in place and limited in quantity.

b. Because they are generally buried, most minerals are located by more chance. This makes the character of mining speculative and big risks are often run in exploiting exhaustible minerals such as petroleum.

c. Mineral reserves continually decrease and the operating cost continually rise (law of diminishing returns).

d. Most of minerals are durable. As a consequence stocks of secondary sources of metals continually increase, which often creates problems for mining enterprises (e.g. iron ores versus scrap iron).

3. The importance of minerals generally

The importance of minerals, especially fuels and metals, for development is that they increase efficiency and production. This increasing efficiency raises buying power and expands the markets.

4. The methods of investigation of minerals

Prospecting technique today lays emphasis on the importance of geo-physical and geo-chemical investigations on photogrammetry, photo-geology and on extensive use of aerial magnetometers.

5. Regions to be investigated

It is necessary to plan in advance the cheapest possible method of exploration by determining and limiting the areas to be explored systematically. One of the most effective methods is to use the available information on the general geology in the first stage. Generally speaking, Indonesian rocks are covered by a layer of overburden consisting of tropically weathered soil.

When starting to conduct investigations on a new field, as much information as possible should be gathered from regional government agencies and the local population. The second stage of the programme is core boring. As this costs more to conduct, it is only justified if there have been positive results from previous explorations.

B. BASIC MINERAL STOCKS

1. The orogenese composition of the Indonesian Archipelago and its relation to metal-ore containing areas

The Malayan Orogen which connects East Burma to West Kalimantan through the Malay Peninsula is primarily a lead and aluminium region.

The Sumatra Orogen that extends from Sumatra to Kalimantan Tenggara, passing through Java, contains iron, basic metals that contain gold and silver in Central Sumatra, iron ore in South Sumatra and Kalimantan and certain type of sand that contains diamond and gold in South Kalimantan.

The Maluku Orogen passes through lines beyond the Sunda islands and the regions east of East Sulawesi and it is very important because it contains nickel silicate and iron ores.

In the western part of the Greater Sunda islands of the Indonesian Archipelago, there are remote places containing gold-silver and antimonite-mercury ores.

2. Classification of mineral reserves in Indonesia

a. Minerals that have been mined for some years and have become a part of Indonesian economy are: petroleum, coal, tin and bauxite.

b. Minerals that have been mined or are mined on a small-scale and that may possibly be expanded are: gold, silver, manganese, nickel, sulphur, phosphate, asphalt, iodine and a number of less important minerals.

c. Potential metal ores are lateritic iron ore in South Sumatra, Kalimantan and Sulawesi, nickel ores in Sulawesi, deposits of basic metals in Central Sumatra and copper, lead and zinc ores in Central Java.

3. Mineral ores in exploitation

a. Petroleum and natural gas

Petroleum: Very important and productive oil fields in Indonesia are located in the tertiary geosynclinal area on the borders of so-called Sunda area. In the East, oil is found in West Irian and Ceram.

Oil companies operating in Indonesia - There are three private companies, one joint company and government-controlled oil enterprises.

rprise	Owned by	1954 Production		Reserve	Exploitation fields
		In metric tons	In million barrels	In million b.b. (1954 estimate)	In hectares
M.	Dutch	3,954,704	24.9	400	2,073,589
nc	USA	3,238,545	20.4	250	750,931
	USA	1,873,211	11.8	3,000	903,000
.M.	Joint 50/50 basis Indonesian & Dutch	1,482,337	9.3	100	3,575,070
	Government	492,005	3.1	-	-
	Total	11,040,802	69.5	3,750	7,302,590

Source: Mining Service

Natural gas: As one of the by-products of crude oil, natural gas is now used in a limited quantity but for the most part it escapes unused. The estimated loss at present during the process of oil production is 1,200,000 tons, plus another 900,000 tons during the refining process. Only 40,000 metric tons is used as a power mover in the oil industry. The natural gas reserve appears to be very large in quantity and may be used for important technical industries such as the manufacture of artificial fertilizers. It can be further used as a generator of electric power.

b. Coal

- Coal mines in production:

Bukit Asam is the most important of the Government coal mines. Its production in 1954 amounted to 647,100 metric tons as compared to Umbilin's of 78,600 metric tons, while the coal production of the private mines in Kalimantan was 174,100 metric tons in total.

The bituminous coal reserve of high quality of the Bukit Asam mine is 60,000,000 metric tons. Investigations are being conducted into the extent to which this non-coking coal reserve together with the iron ore reserve in Lampung can be used as the basis for a steel industry.

- The Umbilin Coal Mine (Government owned)

The production of this mine at present amounts to 80,000 tons of bituminous non-coking coal per year from underground mining. The mine operates at a loss, because of its low production. The coal reserve here is 200,000,000 metric tons, which is bigger than that of the Bukit Asam mine. But deep and expensive mining is needed to get the coal out of the ground. An investigation is under way to determine possible rehabilitation on an extensive scale.

c. Tin

From the view-point of value of production, tin comes second to oil. Most of Indonesia's tin production comes from Bangka and the rest from Billiton and Singkep. The Bangka Tin Mine has become completely a Government property.

The world market situation at present gives little stimulous towards expansion in tin mining. Certain parties in Europe are interested in the processing and purchase of pure tin from Indonesia, so that establishment of a tin smelter in Indonesia needs to be considered. As far as the Bureau of Mines is aware, there have never been thorough investigations made on the cruder and intermediate concentrates. Crude concentrates usually contain less than 10% tin according to weight. Electro-static and electro-magnetic splitting processes have now been improved in quality and there now appears to be a possibility of splitting these by-products commercially. It is suggested that an expert in economic geology be placed at the Geological Service with the duty of studying these possibilities and co-operating with the engineers in tin-ore processing and processing of other by-products found in tin concentrates. Investigations are being attempted for a more thorough study of other products found in tin concentrates.

Tin production in Indonesia
(in tons)

Year	Bangka	Billiton	Singkep	Bangkinang	Total
1940	24,180	17,294	2,402	10	43,886
1941	31,460	19,500	3,200	10	54,170
1950	19,429	10,001	2,672	-	23,102
1952	21,931	10,654	2,418	-	35,003
1951	19,461	8,736	2,789	-	30,986
1953	21,398	9,714	2,708	-	33,820
1954	24,694	9,019	2,146	-	35,867

Source: Bureau of Mines.

d. Bauxite

Bauxite is found on the islands of Bintan, Kojan and some other neighbouring islands to the south-east, all of which are situated in the northern part of the Riau Archipelago. Possibly bauxite deposits stretch farther up to south-west of West Kalimantan.

These bauxite deposits are mined by the Nederlands Indonesische Bauxite Exploitatie Maatschappij (NIBEM), in which the Government holds about 20% of the shares. The composition of the bauxite is approximately 53% aluminum and 4½ % silica and the reserve amounts to 13,000,000 tons of clean bauxite. Unproved reserves are estimated at 14,000,000 tons, making the total 27,000,000 tons.

4. Minerals in small-scale exploitation

a. Gold and silver

Although deposits of gold and silver are found on many of the Indonesian islands, most of the prewar Indonesian production came from South Sumatra. In the period 1900-1940, Indonesia produced 123,282 kilograms of gold in total and 1,219,261 kilograms of silver, of which 101,063 kilograms of gold and 1,189,851 kilograms of silver came from Sumatra.

The gold mine of Tjikotok-Tjiroten will resume production in 1857. This mine is operated by the Perusahaan Pembangunan Pertambangan N.V. (Mining Development Company) of the Bank Industri Negara.

b. Manganese

Manganese ore is found in Java, mostly in West and Central Java, in the Karangnunggal, South Tasikmalaja and Kediripan areas stretching up to the Progo Mountains in Jogjakarta. Most of these deposits belong to the N.V. Algemene Industriele Mijnbouw and Exploitatie My (AIME).

Efforts have been made jointly by the State Planning Bureau and the Provincial Government to estimate the manganese reserve here. Indications are that the reserve is not so large and is spread over small clusters

without any continuous connection between each other. Potential manganese ore deposits of moderate quality are also found in the Doi area, South Halmahera which at present are exploited by the Local Government with the assistance of the Bank Negara Indonesia under the control of the Mining Development Company.

c. Phosphate

Calcium phosphate deposits are found in limestone in many places in Java. Van Bemmelen's Geology of Indonesia states that it is found in 53 places. The deposits are located in limestone caves as a result of a limestone reaction with phosphoric acid derived from the droppings of small bats. In present circumstances, it is clear that the industrialization plan in the Asahan Project, including the establishment of a double super phosphate plant, cannot rely on natural phosphate stone in Indonesia as a raw material. Unless new deposits are found and opened for exploitation, natural phosphate must be imported as is the case at present.

d. Sulphur

Sulphur is found in craters of volcanic mountains in various parts of the Indonesian Archipelago. The sulphur is found associated with lava or mixed with volcanic ashes in extinct craters. Known sulphur reserves are between half and one million tons. At present, there is no significant production. The prewar production, mostly from East Java, amounted to approximately 15,000 tons per year.

e. Asphalt

Asphalt is produced for the most part by the oil refinery in East Java. The asphalt mine on the Island of Buton provides work and income for the local population and increases the Indonesian national asphal production. This mine has been entrusted to and under the management for the Directorate of Roads and Bridges.

f. Iodine

Iodine is obtained from salt water springs containing iodine ejected from anticlinal sources. The iodine bearing solution is obtained by pumping and is at present operated by a private company called Semarangsch Administratie Maatschappij. Iodine production has dropped from 62,000 kilograms in 1938 to 7,000 kilograms in 1951 but rose again gradually to 10,806 kilograms in 1954.

g. Kaolin

For a long time the island of Bangka has been producing most of the kaolin used by the domestic ceramic industry. The concession of the kaolin exploitation is in the hands of the N.I. Chinotto en Klei Industri.

h. Diamond

Diamonds were found in Kalimantan more than 100 years before they were discovered in South Africa. The total recorded diamond production of Kalimantan up to now is over 2 million carats: the total world diamond production at present is around 15 million carats per year, approximately 10% of which consists of crude gems. There is a possibility of continuation of small-scale production of diamond in Kalimantan with simple methods for many years to come and a larger production is not an impossibility.

5. Mineral material potential

a. Iron ore

Two kinds of iron ore are found in Indonesia:

(1) Hematite magnetite ore of metamorphic contact origin; and

(2) Limonitic ores found in extensive areas formed by lateritic weathering.

(1) Hemtite magnetite ore: There are 39 places on record in Sumatra as containing this kind of iron ore. Many deposits are found in the north-eastern part and the south-east end of the island and around Padang close to the coast. But the rest lies too deep to be of any commercial value. Kalimantan records 16 places where the mineral is found.

(2) Lateritic ore: Extensive deposits of lateritic iron ore are found in Central and South-east of Sulawesi and South-east of Kalimantan. Important reserves are found in the following areas:

South-east Kalimantan:	
- Down Selatan area, Kukusan Mountain ..	170,000,000 tons
- Sebuku Island	300,000,000 "
- Danawan Island	7,500,000 "
Total	477,500,000 "
Central and south-east Sulawesi:	
- Larona region, near Towuti Lake	370,000,000 "
Total	847,500,000 "

Lateritic iron ore of better quality is found in the iron mine of Lampung, South Sumatra. There is no sufficient reserve of iron ore as yet.

There are no reliable figures on iron ore reserves. A thorough investigation is being conducted at present in this area by the Wedexio team from West Germany under supervision of the State Planning Bureau. The result of the investigation is expected to come out in the middle of 1957. This investigation is a part of the preparations for an iron and steel project.

b. Nickel ore

Nickel is found mixed with lateritic iron ore on an extensive area in the surrounding of Lake Towuti, Central Sulawesi, in the South-east Peninsula of Sulawesi, in varios small islands nearby and also in South-east Kalimantan.

Europe and Japan are promising markets in the future for Indonesian nickel. In considering the nickel ore reserve and the required investment for offices and equipment, the capital needed, according to the J.G. White Engineering Co. estimate, is Rp 50 for each kilogram of nickel for profitable production (at 1952 values).

c. Basic metals (copper, lead and zinc)

Copper, lead and zinc are found in Central Sumatra around Bukit Tinggi. A number of mines (deposits) have been operated on a small-scale. It is essential that extensive investigation and boring are conducted to determine the possibilities of commercial mining. Special attention must be given to zinc in view of the large quantity thereof imported and needed by this country.

d. Titaniferrous iron ore

This ore is of sedimentary origin. It is found on shores where there is rising land, on the coast of the Indian Ocean, as in Djampang Kulon (West Java) and Tjilatjap (Central Java). According to prewar geological survey reports, these accumulating deposits contain fine ilmenite and magnetite grains which are apparently collected together by wave movements. Geological investigations estimate the ore reserve here at 8,750,000 metric tons which on average contain 44% Fe and 12.8% TiO_2. Holders of exploration rights estimate the reserve at 17 million tons, with a possibility of an additional 10 million tons, making the total 27 million tons.

After studying this matter, the Iron and Steel Committee has decided to conduct further investigations in the area. These investigations are also being carried out by the Wedexro Bureau.

C. THE ECONOMIC POSITION OF MINING INDUSTRIES IN INDONESIA

The prewar export value of Indonesian minerals was second in importance only to estate production. From an economic point of view, oil and petroleum products hold first place and tin second. These two minerals represent over 95% of the total value of minerals exported in 1939 and 1953. Third in importance is bauxite, while the importance of coal does not lie in the amount of foreign exchange it produces, but in the value of its production which mostly is used for home consumption. After the coal production reached a peak production of 2,009,000 metric tons in 1940, it dropped during the war and rose again after from 537,000 tons that year to about 1 million tons per year in 1952, 1953 and 1954.

The importance of Indonesian mining is also seen in the strength of labour force. In 1953 for example, petroleum companies alone engaged 35,834 workers, coal mines employed 8,472, tin industry 23,340, bauxite 404, iodine 170, manganese 300 and asphalt 103, making the total of workers earning their living from the mining industries 68,666.

The importance of private capital investment in the mining industries is evident in the economy of Indonesia. Dutch capital invested in the tin mines is estimated at ten million guilders and in the oil industry 500 million guilders, American investment is registered at $ 100,000,000, half of which is in the oil industry, and British capital is estimated at approximately £ 100,000,000.

Comparative figures by weight of the mineral exports from Indonesia between 1938 and the last four years are as follows:

Mineral and mineral products export
(in metric tons)

Product	1938	1951	1952	1953	1954
Petroleum and petroleum products	6,426,000	5,274,691	5,272,915	7,052,125	7,626,085
Tin and concentrates	20,906	31,242	35,171	33,483	35,491
Bauxite	273,811	601,838	219,158	169,465	244,790
Coal	306,307	114,136	110,294	137,035	86,782

Sources: Bureau of Mines

It must be noted that although Indonesian production of petroleum continues to rise, this increase remains far behind the expansion of world production. Coal production in 1952 was 11% higher than in 1951, but dropped in 1953 about 7.5% and will possibly fall again by 5% in 1955. Bauxite dropped in production by 44% during the same period and continued to fall until it reached the low level of 150,000 tons in 1953. As has been stated above, the primary reason has been the loss of the western market as a result of the termination of the contract with USA in 1952. Recently the production of bauxite has made rapid progress with new possibilities (with an increase of 113% for the first six months of 1955).

As a whole, mineral production is in a better condition than that of estates when prewar and present figures are compared. Statistics of mineral production of the same basic products are as follows:

Production of mineral and mineral products
(in metric tons)

Product	1938	1951	1952	1953	1954
Petroleum and petroleum products	7,398,144	8,092,716	8,523,395	10,225,321	11,040,802
Tin and concentrates	30,204	31,482	35,563	34,362	35,861
Bauxite	145,354	642,310	343,754	149,552	173,239
Coal	1,456,647	867,716	968,939	897,331	899,816

Sources: Bureau of Mines

In view of the above considerations, a large increase of production cannot be realized in a short period. It is clear that the only means to attain it is systematically to continue investigations for new minerals which have not been discovered indeed until now. This explains why the State Planning Bureau emphatically stressed the importance of prospecting for new minerals. It can be expected that with the help of expert technicians from abroad, in 1956 and the following years the investigation plan can be expended through joint efforts of the Bureau of Mines and Geological Service, Technical Faculty and the Faculty of Mathematics and Physics of Bandung and Jogjakarta. It can be expected that at the end of the first Five-Year Plan the number of mining and geological engineers trained in the Indonesian Universities and abroad will be quite significant.

It is felts necessary that the policy connected with this plan must have a certain limit on the basis of conclusions such as those, for example, found in the Paley Report known as the President's Materials Policy Commission. The report evaluates the materials situation in USA around the year 1975 and states that there will be unavoidable shortage of some certain basic metals such as lead and copper.

The per capita consumption of copper per year in USA will possibly rise by 2.9 lbs. to about 26 pounds in 1975. Lead consumption at that time will already be 4 times as high as in so-called developed countries and is expected to double by 1975. This means that the USA must cover its shortage of this metal from foreign sources. It is remarkable that per capita copper consumption in non-industrialized countries is only 1/3 pound per year and is not expected to increase higher than one pound per capita per year in 1975, even though economic development in those countries will be directed towards rapid industrialization.

Therefore the discovery of potential copper reserves and the exploitation of other basic metal mines in Indonesia will constitute additional income for this country.

D. SYSTEMATIC EXPLORATION PLAN

A brief explanation will be given below concerning a number of works carried out in 1954, 1955 and 1956 as a preparation for the first and the following Five-Year Plans.

1. Works carried out in 1954, 1955 and 1956 as a preparation for the first Five-Year Plan:

(1) On two occasions, investigations have been carried out on the working of bauxite in Riau and the NIBEM Mine at Kidjang has also been visited. They have produced a final estimate of the future possibilities of the Riau bauxite mines and their influence on the aluminum plant that will be set up in North Sumatra in the Asahan complex and their influence on export.

(2) In its effort to find coking-coal, the J.G. White Engineering Company has conducted experiments at two mines at Loa Bukit, near Samarinda, East Kalimantan. Samples from these experiments have been tested in the USA by a low-temperature carbonization process (Disco Process) and the result was negative. A sample was later taken from the coal mine at Logas, Central Sumatra, which, according to investigation during the Japanese occupation, contained coking-coal. After thorough investigation in the Batelle Memorial Institute, USA, by a high-temperature carbonization process, the coal was declared non-coking.

(3) An expedition was sent to the island of Sumbawa, which was reported as possibly containing volcanic sulphur deposits. The result of the expedition was negative.

(4) Preliminary investigations were conducted at the copper mine of Tembulun in April 1954. From on-the-spot observations and the available documentations based on the latest mapping made by Dr. Osberger, it seemed best that further drilling be carried out with the use of diamond drills.

(5) A Colombo Plan geologist was placed in the Jogjakarta region with the special duty of preparing estimates of manganese reserves in the area. No significant amount of the ore was found, although small-scale mining of the manganese ore can still be accounted for.

(6) Preliminary investigations conducted in the Tirtomojo-Kasihan area in Central Java confirm the importance of this area as a region possessing basic metal sources such as copper, lead and zinc mixed with pyrites in different percentages.

(7) An estimate is being made of the raw material for a cement factory in North Sumatra. A site has been located which offers the possibility of setting up a cement factory.

(8) Investigations were also conducted in Muara Labuh, Central Sumatra, where before the war a number of basic metals were exploited. But a very large amount of work has still to be carried out before further investigations could produce any result. Apparently this area still promises a possibility of finding a more extensive low-quality lead, zinc and manganese reserves, with a certain percentage of silver as by-product.

(9) Finally, an effort has been made to conduct investigation concerning lateritic iron ore in Lampung, South Sumatra, by a larger team consisting of geologists and mining engineers assisted by supervoyors. A number of experiments have been made and samples taken, half of which were sent to Bandung for chemical analysis and the other half to West Germany. Further investigations are being conducted by the Wodcxxx under direction of Dr. Rohland.

(10) A complete expedition was sent to South-east Kalimantan to conduct investigations on the state of iron ore and coal in that area. This is an important part of preparations for an iron and steel project. The methods of coking-coal manufacture and purification of iron ore from this area are being studied in West Germany.

(11) There are hopes of discovering industrial minerals in this country such as gypsum, in connection with the completion of the Gresik Cement Factory. This is a very important material for the fertilizer industry, for the manufacture of sulphuric acid and for building construction. At present gypsum is still imported to this country. An investigation has been started on lands known to contain the mineral in East Java and Madura.

(12) Furthermore, a project is being prepared for the utilization of Kawah Idjen and crater lake water by use of a supply pipe to carry the water to the coast of Banjuwangi for gypsum manufacture. Preliminary investigations on lateritis iron ore in Larona (Sulawesi) and Kalimantan are temporarily limited to documentation work carried on by the Geological Service Investigation of lateritic iron ore, nickel and copper in Sulawesi should be carried on more intensively.

2. Long-term programmes in the first Five-Year Plan

The following are the appropriations for mining development in the Five-Year Plan:

For Bangka Tin Mine	Rp	400,000,000
Bukit Asam Coal Mine		300,000,000
Umbilin Coal Mine		name only
Mining Development Co. N.V. ...		name only
Bureau of Mines and Geological Services		32,000,000
Special works		25,000,000
Total	Rp	757,000,000

The total amount of expenditure provided in the Five-Year Plan for Mineral Resources is Rp 757 million, of which Rp. 442.2 million is foreign exchange.

As is explained in the chapter on industry, an allocation of Rp 88.5 million, with Rp 67.3 million foreign exchange, has been made for possible price changes and unavoidable projects in the industry and mining sectors.

Special works include local investigations and special contracts. Local investigations, for example, on the possibilities of establishing an iron and steel industry are to be carried out under a direct contract with the International Consultation Bureau (i.e. Wedemco), who are experts in such industry.

Long term projects for exploration of minerals by the Governments must also be financed from the above-mentioned funds. As Indonesia depends for the most part on the assistance of foreign technicians, difficulties are found in preparing long-term project. The following projects give a picture for the time being of the priorities of execution considered necessary under the present circumstances:

(1) Investigations on the possibility of establishing an iron and steel industry, which were started in 1956, will be continued for a number of years to come. The results of the investigations in South Sumatra, South-east Kalimantan and West Java will determine the place and the process with which the basis steel industry can be started. Furthermore, investigations into the lateritic iron in Sulawesi must be carried out. It is hoped that a start can be made with the establishment of the steel industry at the beginning of the second Five-Year Plan.

(2) Investigations on basic metals (lead, copper and zinc) in Central Sumatra must be continued as long as that area holds possibilities.

(3) The lateritic nickel mine in the Kolaka area in Sulawesi is one of the promising future mines. Indications at present show the presence of at least 5,000,000 tons of ore reserves, which contain an average of 2.5 % of nickel, with a high probability of finding larger reserves of higher quality.

(4) There are attractive mountain areas in Kalimantan for conduction of preliminary investigations. A number of reports from different sources reveal the presence of a number of minerals in the area. The investigations on this area, i.e. the mountain area of South

and West Kalimantan, will initially be an object of aerial investigation with the purpose of getting more detailed topographic maps of some particular areas, before ground investigations can be started. Aerial mapping of this area is one of the most important steps that must be carried out.

(5) The lack of gypsum and phosphate compel us to import them. It is hoped that a systematic investigation can be conducted to find these two minerals, within the limits of the available technicians. Although there is not a great chance of finding commercial phosphate reserves in Java and on the other islands, the possibility of continuation of the phosphate deposits in Christmas Island (British), south of Indonesia, must be investigated.

(6) An expedition must be sent to the Island of Belong, where nickel is reported to be found as soon as technical staff and equipment is available.

(7) The importance of coking-coal has been explained in the preceding section. As stated in that section, the tests conducted in two coal mines by the Batelle and Loshers Laboratories in the USA produced negative results, but German experts are the opinion that this problem can still be solved however difficult it seems.

E. GOVERNMENT POLICY AFFECTING MINERAL SOURCES

1. Mining regulations

In Indonesia all minerals in the soil are the property of the State, irrespective of who are the owners of the lands containing the minerals, and a special right is required for the minerals. This right is regulated in a Mining Regulation. Legal owners of lands have no right to use or to sell to others minerals found on their lands. The Mining Regulation of the Netherland Indies Government is still in force.

It is clear that the old regulation practically cannot be used now and must undergo a thorough revision for adjustment to the changed economic structure of this country, i.e. a change from colonial to national economic system.

Certain articles, such as the conception of concessions which are valid for 75 years with a concession fee of 25 cents per year per hectare, must be deleted and unused concessions must be subjected to a higher tax. The rights and responsibilities of mine owners must be specified more clearly, such as the provisions concerning eligibility of applicants for getting concessions, etc.

At present, the need for an Indonesian Mining Law is urgently felt since the question of mining touches the living aspirations of the entire Indonesian community, where this is still regulated by the old Indies Mining Law, which is no longer adequate for present conditions.

a. Main problems

In replacing the Indies Mining Law, matters that must be regulated in (Indonesian) Mining Law must not only concur with the fundamental ideals of the situation and condition of the Republic of Indonesia after the transfer of sovereignty, but must also be adjusted to the development of the national interests in mining, which must be reviewed thoroughly from the political and economic point of view as well as from social and strategic angles.

The main problems are:

(1) the ownership of all kinds of minerals contained in the rocks of Indonesia and extension of the territory up to the territorial border (continental shelf);

(2) classification of minerals into a number of groups on the basis of the specific characteristics of the minerals themselves, on the understanding that the questions of petroleum, asphalt, ground candle and all similar bitumens are regulated in separate laws;

(3) the national character of the mining industry and priority in exploitation thereof to Indonesian citizens;

(4) use of manpower in mining industry, which should be run by Indonesians themselves;

(5) existence of national reserves;

(6) reasonable Government income as a share in the profits of the mining industry;

(7) guarantee of orderly exploitation of the mines, for which supervision over the industry is necessary, and the avoidance of speculative practices;

(8) the existence of transitional regulations to avoid a vacuum before the new mining regulation comes into force.

b. Explanation on the above problems

(1) With regard to all minerals contained in the soil of Indonesia, it is positively stated that these minerals are the property of the State. This statement is the foundation of the Mining Law so that with this statement the State can have a full control of the entire mineral resources, if necessary, in the interest of the State and for the welfare of the nation, in accordance with Article 38 of the Provisional Constitution of the Republic of Indonesia. With the new conception of the so-called "continental shelf", the mining area is extended up to the area beyond the territorial waters.

(2) Grading of minerals into a number of classes (very important, important and less important groups) is based on their respective character-istics and new discoveries about them, such as radio-active minerals and other vital minerals for strategic defence and reconstruction of the State. It is also felt necessary to issue separate laws for petroleum, asphalt, asphaltites and all similar bitumens, both liquid and solid, and all kinds of combustible gasses, because of their highly specific character and great attractiveness to the general public, wherein international aspects are also involved.

The Mining Law is considered as a basic law. In drawing up the petroleum regulation, the principles of the Mining Law are taken into consideration, supplemented by new articles or deviating from it when necessary, because of the spedial problems affecting petroleum. Wherever minerals are considered to be best exploited by the Government, this will be stipulated in the law.

(3) In the utilization of natural resources (Government property), the following systems of exploitation may be followed:

i. Exploitation by the Government: the national character of such enterprises is no longer in question and the Government has only to choose the form of enterprise that will give freedom in administration and financing, without involving the sundry regulations usually common in Government services.

ii. Joint exploitation by the Government and private business: For the establishment of joint enterprises, the Government enters into agreement with private parties, both Indonesian and foreign. In a joint company, the Government has always the greatest influence: such agreements must be preceded by issuance of laws governing the most vital groups of minerals.

iii. Grants to private business for operation on behalf of the Government.

iv. Enterprises operated by private business where, in principle, priority of operations is given to national entrepreneurs.

v. In other cases, exploitation by private business is also possible on the conditions, however, that matters concerning the place of incorporation, composition of management, etc. be stipulated further in this law and concur more closely with the national interests in the field of mining.

(4) Concerning the employment of workers in private mining industry, it is, in principle, desired that Indonesians be given priority of employment in the entire organization, both subordinate and executive staffs. In view of the fact that we still lack trained and experienced Indonesian technicians for mining enterprise, this law gives permission to non-Indonesian citizens to work in the mining industry in a limited number for limited periods, while the industry is held responsible for the training of Indonesian personnel.

(5) In the interest of the nation's reserves, the Government may close a number of areas against mining activity in general or for certain minerals in particular.

2. Government policy affecting the oil industry

(1) There is great possibility that for some time to come Indonesia will continue to be a scene of activity for both national and foreign capital. It is true that while in the state of development and within the framework of increasing production, in order to raise the nation's standard of living, the limited capital available will be reserved primarily for the acquisition of productive equipment.

(2) As a consequence, the Government plan and policy must be based on this possibility and must consistently aim at creation of favourable climate for private industries, national or foreign, because the available capital of the Government is far below requirements for increasing the national income.

(3) If there proves to be a shortage of domestic capital for the minimum level of investment, opportunities may also be opened for investment of foreign capital, in addition to loans and other aids, for the supply of basic equipment to increase the smooth process of industrialization. It is only natural that the advantages and disadvantages of foreign capital of investment must have careful consideration, in accordance with the stipulations and pilicy contained in the Foreign Capital Investments Act.

(4) General policy on investment of foreign capital in Indonesia has been stipulated in the Foreign Capital Investments Act.

(5) The Government realizes the important role of the oil companies in the economy of this country. In addition to direct income from these enterprises (foreign exchange, company tax, excise) there is also indirect profit.

(6) The Government closely follows the situation of the oil wells and the world oil industry generally. At the present time we have insufficient capital and technicians for operation and expansion of the oil industry. Domestic consumption of petroleum and petroleum products continues to rise at an estimated rate of approximately 10% per year. Increase of production is the only way to meet increasing requirements. This will not only meet the home market demand, but will also decrease the import of crude oil and other petroleum products which must be paid with foreign exchange.

(7) As a temporary Government measure, it is only fitting that additional exploration concessions and exploitation concessions be granted to enterprises that do not have sufficient concession reserves, but which are following a sufficiently progressive attitude toward the economic policy of Indonesia.

(8) Stanvac, for example, holds comparatively the weakest position of the three oil companies working in Indonesia, as may be noted from the estimated reserves and areas (see page 75) under exploitation of these three companies in Indonesia. The same is also true of the joint oil company NIAM.

(9) With regard to the matter of granting additional concessions to create a balance in the reserves of each oil company and in consideration of the increasing domestic requirements and the effort to increase export of petroleum, the latest policy of the Government is to promote gradual Indonesian participation in the exploitation of its oil fields. Amongst the important factors in this policy is the participation of Indonesians in the oil production process, as well as in the management and responsibilities of the oil industry. In this matter, a thorough review should be made of the organization of the joint company NIAM on a 50/50 basis, as the executive positions are entirely in the hands of B.P.M.

CHAPTER 7

E L E C T R I C P O W E R

Introduction

Demand for electrical energy was very low until 1934, but from 1934 - 1940 the requirement increased by 7% each year. In 1949, Indonesia's consumption of electric power per capita was among the lowest in the world. The position regarding electricity in Indonesia in 1949 is shown in the following table.

Table 1

Region	Population	Total consumers	Product. in KWh (thousand)	Average per consumer (in KWh)	Product per capita
West Java	14,600,000	90,000	200,000	2,220	13.6
Central Java	17,200,000	40,000	46,000	1,150	2.6
East Java	18,000,000	44,000	73,000	1,660	4.1
Sumatra	11,300,000	32,000	37,000	1,157	3.2
Kalimantan	3,300,000	11,000	12,000	1,091	3.6
Sulawesi, Maluku, Nusa Tenggara	11,400,000	19,000	19,000	1,000	1.6
Total	75,800,000	236,000	387,000	1,650	5.1

Per capita consumption in 1949 in other countries is as follows: Italy 410 KWh, Britain 814 KWh, USA 1,990 KWh, Canada 3,430 KWh, as compared to Indonesia's 5.1 KWh.

There are sufficient raw materials and the necessary labour in Indonesia, but for construction of industries there are also other requirements, namely electric power the lack of which has been felt seriously. As has been stated above, the yearly increase before war was 7%. From 1950 to 1954 production roughly doubled, increasing at 16% per year, but the electric power supply in this country is still far from sufficient so that it has been necessary to restrict consumption of

electricity.

In 1954 the per capita electric power production in Indonesia was 10 KWh, as against 22 KWh in India, 35 KWh in the Philippines and 704 KWh in Japan. The following are production figures for electric power in Indonesia in 1954:

Java	649,000,000 KWh	Kalimantan	18,000,000 KWh
Sumatra	95,000,000 KWh	Other islands	9,000,000 KWh
Sulawesi	41,000,000 KWh		
		Total	812,000,000 KWh

Five-Year Plan for generation of electric power

The preparation of the Five-Year Plan must be based on our own conditions and capabilities. These conditions and capabilities involve especially the availability of expert and experienced technicians for the construction of large-scale projects.

Moreover, our policy for the development of electric power is in the first place to catch up with arrears. Hence, construction of electric power projects, especially large-scale projects, is included in the Five-Year Plan. During this five-year period, before the completion of the large-scale projects, our pressing need will have to be provided by construction of moderate-sized electricity generating projects.

The type of electric power generating stations that will be constructed in each region depends on the conditions in the regions themselves. Futher explanations will be given in the plans for electric power construction for each region. Apart from that, finance is a determining factor. The financing must be based primarily on our own available sources of funds. The appropriations provided for electric power development in the Five-Year Plan is Rp 1,750 million, including Rp 880 million foreign exchange. A contingency amounting to Rp 175 million is also provided for possible price fluctuations and indispensable projects, of which Rp 74 million is foreign exchange.

West Java

For purposes of this project, West Java includes the province of West Java and the western part of Central Java. Electric power capacity utilised in West Java up to the end of 1955 is 101,465 KW. Electric power production in various districts in West Java up to and including the year 1955 is shown in the following table.

Table 2
(in thousands KWh)

Year	Bogor	Bandung	Subang	Ketenger	Others	Total
1951	143,066	73,467	8,500	27,500	13,074	265,607
1952	155,600	86,853	9,000	31,000	15,233	297,686
1953	160,899	98,469	9,500	34,000	15,248	318,116
1954	189,276	113,022	10,000	36,813	15,889	362,000
1955	203,796	128,714	10,000	29,452	19,947	391,909

On the basis of future requirements and existing possibilities, the first large-scale construction of an electric power generating station in West Java will be the Djatiluhur project in the Purwakarta area. Djatiluhur is a multi-purpose project, which is intended both for production of electric power and supply of irrigation water. Further information is given in the chapter concerning irrigation, regarding the irrigation function of Djatiluhur. The Djatiluhur project for hydro-electric power generation is to be completed in 1961, when five generators will be installed with a total capacity of 100,000 KW and a production capacity of 528,403,200 KWh, at a total cost of Rp 400,million.

The construction of the generating station of Kiara in the Bandung area, which was previously to be constructed under the first Five-Year Plan has been partly postponed and included in the second Five-Year Plan because of financial difficulties. Five generators will be installed in the Kiara generating station with a total capacity of 5 x 40,000 KW = 200,000 KW and

production capacity of 911,740,800 Kwh, at a total cost of Rp. 120 million in the first Five-Year Plan, to be completed in the second Five-Year Plan at a total cost of Rp.360 million.

In addition, hydro-electric power stations will also be constructed in:

a. Parakan near Bandung with a capacity of 7,500 KW and a production of 53,436,000 KWh, costing Rp 5 million, has for the most part been completed and already used during the Asia-Africa Conference.

b. Tjikalong near Bandung with a capacity of 11,000 KW and a production capacity of 74,460,000 KWh at a total cost of Rp 40 million.

Also a diesel electric power station in Karet, Djakarta, part of which was completed in 1955 with a capacity of 11,000 KW, production 33,000,000 KWh at a total cost of Rp 15 million. The capacity to be installed in 1960 is 129,465 KW. The yearly production after 1960 will be 541,865,000 KWh, since Djatiluhur and Kiara electric power stations will only be completed in the second Five-Year Plan. Thus the total expenditure for construction of electric generating stations in West Java, excluding expenditures for the transmission system, is Rp 566,5 million.

B. East Java

East Java should be understood for purposes of this plan as the province of East Java and the eastern part of the Central Java Province. Installed electric power capacity up to 1955 was 94,017 KW. Electric power production of various systems in East Java up to and including 1955 is (in thousands KWh):

Table 3

Year	Semarang	Madiun	Surabaja	Others	Total
1951	86,000	7,165	114,000	8,941	216,106
1952	92,000	8,041	132,000	9,391	241,432
1953	98,000	9,045	148,000	10,281	255,326
1954	102,642	10,532	163,047	10,779	287,000
1955	119,687	11,827	174,008	10,987	316,409

In view of East Javanese conditions, the plan is to construct steam-power generating stations as follows:

a. One generating station will be set up in Semarang, with two sets of generators of 30,000 KW each - a total capacity of 60,000 KW which will produce electric power totalling 132,000,000 KWh, at a construction cost of Rp 165 million. It will be completed in 1960.

b. Construction of a steam-power generating station in Surabaja with two sets of generators of 30,000 KW each - a total capacity of 60,000 KW, which will produce 220,000,000 KWh electric power at a total construction cost of Rp 165 million, to be completed in the second Five-Year Plan.

The appropriation for East Java therefore amounts to Rp 330 million. An inter-connected system will be instituted in the whole island of Java for distributing electricity from one region to another, so that a transmission system and its distribution will be erected over the entire island, at a total cost of Rp 440 million. The installed capacity in 1960, including the existing capacity, will be 154,017 KW. The electric production at the end of 1960, including production of the existing stations, will be 446 million KWh.

The total construction cost of electric power stations in Java will be Rp 1336.5 million, including Rp 645 million foreign exchange. The total production of electric power at the end of the first Five-Year Plan in 1960 will amount to 990 million KWh.

c. Sumatra

Large-scale generation of electric power in Sumatra, which is thinly populated, must be effected concurrently with industrial development on the island. Although Sumatra's population at present is still low, the available

electric power supply is already insufficient. Installed capacity up to 1955 was 27,025.4 KW and the production capacity up to 1955 is shown in the following table (in thousands KWh).

Table 4

Year	North Sumatra	Central Sumatra	South Sumatra	Total
1951	35,630	12,317	33,430	81,431
1952	40,090	12,740	36,960	89,790
1953	39,940	13,798	36,070	89,808
1954	42,000	15,000	38,000	95,000
1955	44,548	21,678	44,134	110,360

The plan for generation of electric power is to set up a hydro-electric plant on the Asahan River in North Sumatra with three sets of 34,000 KW generators, giving a total installed capacity of 102,000 KW, which is capable of producing 585 million KWh per year, at a total construction cost of Rp 160 million. Construction of the Asahan Project will not be completed until the second Five-Year Plan.

In addition, a diesel generating plant with a capacity of 5,000 KW will be set up in Central Sumatra and one of 10,000 KW in South Sumatra. Therefore, the total installed capacity in Central Sumatra and South Sumatra will be 15,000 KW, capable of producing 45,000,000 KWh of electric power with a total cost of Rp 45 million.

Besides this, it is also necessary to construct transmission and distribution systems in Sumatra for these generating plants. But at the present stage, it is not yet possible to build an inter-connected system for technical reasons. Costs of construction will be Rp 85 million.

The total cost of constructing electric power stations on the island of Sumatra will be Rp 290 million, including Rp 152 million in foreign exchange. Installed capacity in 1960 will amount to 42,025.4 KW and with the production of the existing electric power stations, the total electric power production in Sumatra at the end of 1960 will be 155,000,000 KWh.

D. Sulawesi

Like Sumatra, Sulawesi is also very thinly populated. The population is concentrated chiefly in the north in the Minahasa area and in the south in the Macassar area. Electric power capacity installed in the north is 6,000 KW and in the south 7,000 KW, with a power production as follows: (in thousands KWh).

Table 5

Year	Minahasa	Macassar	Total
1953	12,115	26,908	39,023
1954	11,500	29,500	41,000
1955	11,713	32,584	44,297

In Sulawesi also generation of electric power must take place concurrently with the development of industries. Construction of electric power generating stations in Sulawesi will be as follows:

a. Hydro-electric power station in Tonsea Lama with a capacity of 4,000 KW and a total production of 15 million KWh at a construction cost of Rp 10 million.

b. Diesel generating station:

(i) in North Sulawesi with a capacity of 3,000 KW.

(ii) in South Sulawesi with a capacity of 7,000 KW, making the total of diesel generating capacity of 10,000 KW, capable of producing 30,000,000 KWh, at a cost of Rp 30 million.

In addition, a transmission and distribution system (although not inter-connected) will be installed in North and South Sulawesi at a cost of Rp 38 million. The total cost, therefore, will be Rp 78 million, of which Rp 52 million will be in foreign exchange. Installed capacity in 1960 will be 18,000 KW and the total electric power production at the end of 1960, including production of the existing stations, will be 89 million KWh.

E. Kalimantan

Installed capacity in 1955 was 5,000 KW. The production of electric power on that island is shown in the following table (in thousands KWh).

Table 6

Year	Pontianak	Bandjarmasin	Samarinda	Total
1951	4,000	5,000	2,571	11,751
1952	4,200	5,300	3,257	12,757
1953	4,500	5,540	3,427	13,512
1954	7,500	6,500	4,000	18,000
1955	-	-	-	20,135

The electric power stations in Kalimantan will be based on diesel generating stations, so in the Five-Year Plan only diesel electric generators will be installed with a capacity of 5,000 KW and a production of 15,000,000 KWh, at a construction cost of Rp 15 million. Transmission and distribution systems will also be installed, costing Rp 10 million.

The total cost therefore for generation of electric power for Kalimantan is Rp 25 million, of which Rp 17 million in foreign exchange. Installed capacity in 1960 will be 10,000 KW and the production at the end of 1960, i.e. the end of the first Five-Year Plan, including the production of the existing electric power stations, will be 35 million KWh.

F. Maluku and Nusa Tenggara

Installed capacity is 4,500 KW and production in 1954 was 9,000,000 KWh and in 1955 8,266,288 KWh. The possibilities of electric power production are confined to diesel generation, although there are other possibilities which have not yet been investigated thoroughly.

A diesel electric station will be installed with a capacity of 5,000 KW, producing 10,000,000 KWh. Installed capacity in 1960 will be 9,500 KW. The production that can be attained at the end of 1960, including the production of the existing stations will be 19,000,000 KWh.

The total construction cost for Maluku and Nusa Tenggara is Rp 20 million i.e. Rp 15 million for generating stations and Rp 5 million for transmission system, of which Rp 13.5 million is foreign exchange.

G. Indonesia

At the end of 1955, the total of installed capacity for the whole of Indonesia amounted to 246,867 KW, with a total electric power production of 890 million KWh. With additional installed capacity of 128,500 KW, additional production of electric energy in the Five-Year Plan period will amount to 467 million KWh.

The total of installed capacity in the whole of Indonesia will become 375,367 KW and at the end of the Five-Year Plan in 1960, electric power production will increase to 1,357 million KWh. By the end of 1961, electric power production of 528 million KWh. per year of the Djatiluhur Project will be added (with installed capacity of 100,000 KW) and the production of Asahan hydro-electric power station of 585 million KWh per year, with installed capacity of 102,000 KW.

CHAPTER 8

I N D U S T R Y

In the Industrial Plan, only projects to be executed by the Government are specifically discussed, while for the private sector of industry, instructions, regulations and recommendations are given to reach a well-planned objective. The main intention is to change the structure of our economy and to raise the standard of living of our people. The greatest share of the development must be carried out by the Government. The planning must be regulated on the basis of our present stage of development and must be adapted to the increase in the sources of national income and foreign exchange.

This discussion is divided into three parts, viz:

I. Priority

II. Policy problems

III. Projects

I. PRIORITY

The principal difficulties faced in industrial development are: lack of foreign exchange, lack of technical knowledge and such special factors as motive power for industries or lack of domestic capital. Consequently, development of industries which are considered important cannot be carried out all at once. Priorities of construction must therefore be set up in order to attain the desired equilibrium. Ultimately, the choice of priority in execution implies a certain political element, but it is often the result of technical and economic considerations. These priorities not only apply to new projects, but are also important criteria of the expansion and maintenance of existing industrial capacity.

For reasons which may be national or regional, economic or political, a number of projects or programmes may automatically obtain priority of execution. Priority may be given to subsidiary investments and facilities connected with a higher priority.

General policy, including industry that may be considered as the core of the planning, may be summarized as follows:

Basic priorities:

1. Production of primary consumer goods must be sufficient, in order that foreign exchange may be saved.

2. All projects must be evaluated in relation to their effects on the foreign exchange position either in producing and/or economizing on foreign exchange.

3. Promotion of the most economical and efficient investment of capital in the production of scarce goods which need to be imported.

Further conditions:

1. Goods for general consumption must have priority before other goods. There is no need to encourage the production of luxury goods, because such goods can only be bought by a small number of the people.

2. The existing industries must be maintained; in this connection, it is recommended that expansion of production be prevented, if supply of raw materials has became inadequate for the old industries. Small-scale industries should be protected and assisted within certain limits determined by their economic possibilities.

3. Efficient use should be made of the available domestic raw materials and skills. In this framework, organization of the distribution of these materials deserves due attention.

4. The national principle must be supported and for this purpose opportunities and facilities for getting expert knowledge in management and activities requiring skill must be expanded.

5. Existing transportation routes should be operated to maximum advantage, because new roads require huge expenditures. Efficiency and economy must be practised.

6. Low commodity prices must be guaranteed and their quality must be maintained. Expensive products of low quality increase the poverty of the people.

7. Priority must be given to investments that can soon be put into production, particularly if such investments produce foreign exchange. Meanwhile, the more profitable long-term investments may be considered acceptable also.

8. Priority must be given to investment programmes with good possibilities of settlement and synchronization. In this case, co-ordination between projects which are directly connected is necessary.

9. The manpower aspect must not be ignored; although priority is given to projects that require intensive manpower, mechanization may also be introduced within certain limits.

10. If factors of production are not in short supply, possibilities outside the priority projects must be permitted. This may include a shift in Government expenditures from unproductive to productive fields. It is emphasized that waste must be suppressed with greater intensity. This must be effected in all stages and in all sectors. The fundamental conditions to be observed are honesty, efficiency, labour safety and discipline.

All work programmes are grouped into a number of "operations" referring to certain types of work. The scale of priorities must be considered independent of these "operations", which are set out as follows:

(i) Consolidation: in this stage, the existing national wealth can be maintained and deterioration and dispersal of capital stopped. This stage involves full utilization of existing capacity, methods of packing, grading and storage of the products, processing of material, etc.

(ii) Reconstruction: in this operation is also included modernization to increase production. It is necessary here to consider also rehabilitation of mines that had been in operation before the war. This operation is also connected with fuel policy, i.e. maximum utilization of less essential fuels such as coal, wood, charcoal, so that more petroleum may be released for export.

(iii) Preparation: for execution of new projects preparations must be made so that essential needs are co-ordinated in time. In this matter, the most important need is technical training.

(iv) Advancement: this is the final goal of all the other operations. For this stage, Government guidance is greatly needed.

II. POLICY PROBLEMS

There are now many Government enterprises and semi-governmental enterprises under the control of different institutions. Although information concerning the number of enterprises and statistics of industrial production are not yet complete, it is evident that most of the enterprises are in private hands.

To obtain definite results within as short as possible time, regulations and instructions must be provided and Government guidance given to the private sector. The bodies charged with the duties of promoting industries by means of technical advice, so that mechanization can be advanced and technical quality raised, are the following institutions under the Ministry of Economic Affairs:

Industrial Research Institute in Djakarta.

Chemical Research Institute in Bogor.

Chemical Research Institute in Sumbaja.

Chemical Research Institute in Macassar.

Textile Research Institute in Bandung.

Ceramics Research Institute in Bandung.

Industrial raw material Laboratory in Bandung.

Hide and Skin Research Institute in Jogjakarta.

Batik Research Institute in Jogjakarta.

The duties of these institutions consist of raw material analysis, planning; investigation, information and technical training. Foreign technicians, mostly obtained through the United Nations, are assigned to these institutions because of our own lack of technical personnel. It is desired that the results of the investigations be publicised and the training intensified.

In view of the great numbers of Foundations and the huge amount of funds under their control, it is recommended that an early investigation be conducted into the work and the form of the various Foundations as a business organization: there is a need for clear definition of their fields of activity.

One important element in the development of small-scale industries is the establishment of "Induks" or central parent-factories. Induks aim at rationalization and mechanization of production techniques, improvement of quality and the condition of products, training and educating personnel and convincing others of the value of organization and co-operating personnel and convincing others of the value of organization and co-operation. To improve execution of the Induk programme, the Institute of Industrial Enterprises or some independent body is to be charged with the responsibility of regulating the Induks, whether or not they have the structure of a

...ntion. In this case, red-tape must be simplified. The final object is to make these parent industries more independent and more self-reliant.

Apart from these parent industries, the Government has established some pilot plants to pioneer the manufacturing of new articles and will establish more. It has been found that some dozens of enterprises transferred by the Government to army veterans to be run by them have contributed little to the national production although they are politically of some importance. In view of the different results of the existing enterprises, it is necessary that a period of consolidation be allowed before such enterprises are increased in number.

Up till now, restrictions have been effected in some industrial fields under the "Industrial Organization Regulation 1934" and under new regulations concerning rice mills and warehousing and stevedoring businesses. In addition, the "Nuisance Ordinance" and a number of restrictive local regulations are still in force.

There is freedom in principle to establish, expand and transfer enterprises in other industrial fields. To guide further development in a sound direction, establishment of a registration system is recommended and when necessary also a licensing system for all types of manufacturing industries.

Although in principle there should be no discriminatory treatment among Indonesian citizens, it is still desirable that a sound balance be attained in the economic structure. This sound balance is defined to mean a situation in which no existing group controls any field of activity and also in which fair regional distribution reflects the desires of the regions.

In this connection, the need is evident for positive decentralization of the various organization concerned.

Furthermore, facilities can be granted to industries in the form of lighter taxation, etc. for new industries in addition to reasonable protection against foreign competition. In this case, the interests of the general public should naturally not be sacrificed to the advantage of a small group and a wise middle-of-the-road way must be followed. For the time being, it cannot be expected that the Government will provide sufficiently large funds to finance loans for development in the private sector.

The matter of registration and/or licensing involves also the Foreign Capital Investment Bill which assigns certain business fields for the Government, Indonesian private capital and private foreign capital. Registration and licensing of manufacturing industries should be completed as early as possible.

To a certain extent the Government should intervene to fix prices with the object of avoiding price fluctuations and limiting excess profits. But this interference should be such that it does not become a hindrance to sound development that gives a fair profit to the entrepreneurs.

The Bank Industri Negara plays a very important part in the industrialization programme, although its activities are not limited to manufacturing only but also extend to agriculture and mining. As well as granting credits, Bank Industri Negara participates also in various types of industries. In view of the extent of these activities and to obtain better results in the matter of financing and management, it is necessary to create two separate departments in the Bank Industri Negara:

1. Credits Department
2. Department for control and/or management of manufacturing industries,

in which Government participates, including also those which are at present outside the B.I.N. organization.

The Bank Industri Negara should restrict its activities to large-scale projects of a national character, leaving the responsibility for other projects to the regions with the help of the central Government. Naturally, preparations must be made first for this work, such as training of personnel for instance.

'It is also suggested that a Regional Development Bank be established with an independent position in an autonomous area; this Bank would extend credits to industries that are financed from the Government Budget of the Central Government, from the Provincial Governments or from other sources. It is also necessary that the Provincial Governments exercise some kind of control over the industries owned by them.

In view of the large numbers of Government enterprises and semi-governmental enterprises in various fields, it is furthermore necessary that Councils or Boards be established, with a special duty of supervising and managing these industries by groups, according to type. Through centralization of the staff personnel, coordination can be effected and improvement of the quality of that staff attained so that their efficiency is increased.

There are various Government sources for financing various industries, namely: Bank Industri Negara, Bank Ekspor Impor, the Industrial Service, Credit Extension Institute, Investigation Service, the National Reconstruction Bureau, the Ministry of Labour, Small Industries Fund and Postal Savings Bank. In view of the large number of these institutions, it is essential that effective co-ordination is created and well-defined work distribution set up between them.

As far as possible simplification must be attempted and duplication of work avoided and eliminated by the various institutions. Extension of credit should be c annelled exclusively through banks. In this connection, the credit system must also be decentralized in order to give a smoother extension of credits. In the extension of credits, emphasis must be laid on the economic aspects and established priorities must be observed.

With the object of creating closer relations with the private industry, the Government, through its various services, must give sufficient information to private industry regarding its plans and policies. Private industry, regional Government and other Government institutions and semi-governmental institutions are advised to keep record of the industrial priorities to ensure that their business is not for their own profit only, but also in the interests of the State.

Restriction and economization of overall consumption and simplicity in buildings, equipment and materials can help the development of industries. In that way, the number of articles to be manufactured and, consequently, the variety of raw materials required for their manufacture should be decreased. Any kind of waste must be avoided or at least limited. Waste constitutes a source of factors of production and consumer goods, as well export products. In many cases economies can be effected in the foreign exchange sector.

In our endeavour to set up new industries, the national and regional governments must act as a pioneer and a pilot. Most work is to be carried out by the Government, especially in fields where private capital is too weak or is too timid to start activities, but the Government should withdraw from such industries after the pioneering stage is over.

With the sale of Government enterprises to private business, a revolving fund in rupiahs would be created. Regional Government enterprises set up in the framework of the priority schedule may be subsidized from a Special Development Fund to be provided for this purpose, on condition that they are also able to take some part in this investment from their own finances.

It is also suggested that more autonomy be granted to the provinces in the field of industrial development. For this purpose, it is desirable that provinces draw up plans to raise prosperity in the regions concerned. In this way, we are then heading for a balanced development. In the present stage, this first Five-Year Development Plan, generally speaking, constitutes development with a national character, so that it is necessary for us to gradually lay emphasis on regional planning, in order to give more contents to decentralization and regional autonomy by the transfer of initiative, responsibility and supervision over a number of projects - still within the limits of the region's potentialities and economic accountability. It must be remembered here that provincial policies in their development efforts should be parallel to those of the Central Government, for which co-ordination is needed.

In this plan, there is provided Rp 250 million from the Central Government financing during the Five-Year period, for provincial Government industrial projects. Furthermore, the transfer to the Provincial Governments of execution of a number of Government projects in the Five-Year Plan is also under consideration.

Government guidance is very badly needed by private industry. The relation between Government and private industry should be made closer and regulated. All difficulties arising from bureaucracy which act as a hindrance on industrial development should be suppressed and eliminated.

It is desired that industrial assistance programmes be consolidated and made more efficient and more practical. This assistance covers the following fields:

a. Technical education.

b. Information regarding production techniques and market situations.

c. Standardization and mechanization, when necessary. For this purpose, small-scale industries should be merged in a sort of Induk.

d. Exhibitions.

e. Producers cooperatives.

f. Federations of industries through which information, assistance, etc. could be channelled more efficiently.

g. Facilities in the fields of import duties, taxes and credits. Exemption partly or wholly from payment of T.P.I. import duty, and company tax in certain cases.

h. Foreign exchange for capital goods and industrial materials.

i. Protection for domestic industries. Federations of manufacturing industries ought to control the quality of their products. If they cannot effect this control, definite steps should be taken.

The existence of Government enterprises does not mean that development of private industries or regional industries will be impeded. On the contrary, this kind of industry is wanted. If required, Government capital can participate in joint enterprises. In all cases, financing in foreign exchange is ensured. Consequently, distribution of foreign exchange among a number of enterprises is closely controlled. Private industries that are in position to help the Government in matters of foreign exchange will, in general, be welcomed heartily.

By comparing the figures on domestic production and those on imports, we shall see approximately what we need to manufacture at home. Here again a relation between organizers of imports and organizers of industries is evident. As a guide for entrepreneurs, a directory has been compiled for all fields of industries that offer possibilities for profitable investments in this country. Among them there are some that are highly recommended by the Government in view of their great importance.

III. PROJECTS

This section consists of information concerning:

A. Financial sources and their distribution

B. Special projects

C. Central projects

D. Recommended projects for regional government and private industry.

A. The total of budget for the financing of the Five-Year Plan amounts to Rp 12.5 billion. Of this total, the manufacturing industries and mining sector got Rp 3,125 million or 25%. Allocation for industrial sector alone is Rp 2,279.5 million or 73% of the entire allocation for the industrial and mining section, leaving then Rp 757 million for the mining sector and Rp 88.5 contingencies for the combined sectors. Specification of distribution in the industrial sector is as follows:

1. For industries in the category of special projects	Rp 1,778 mil.
2. For central projects	776.5 mil.
3. For regional projects (through regional development banks)	425. mil.
	Rp 2,279.5 mil.

The foreign exchange requirement for the entire industrial sector amounts to Rp 1,287.5 million or approximately 56% of the total Rp 2,279.5 million, as specified in the following:

1.	Special projects	Rp 735.6	million
2.	Central projects	351.9	"
3.	Regional projects	200.-	"
		Rp 1,287.5 million	or approximately 56%

Five-Year Plan for manufacturing industries

		Place
Special projects:		
1.	Aluminium	Belawan
2.	Acetic acid	Palembang
3.	Sulphate of Ammonia and Urea fertilizer	Palembang
4.	Super-phosphate	Palembang
5.	Rayon	Palembang
6.	Sulphuric acid	Tg. Priok, Semarang, Surabaja
7.	Caustic soda	Waru
Central projects:		
1.	Hemp covering (cord factory)	Medan
2.	Cement	Medan and Gresik
3.	Paper from rice stalks	Blabak
4.	Coal mine	Bukit Asam
5.	Tin mine	Bangka
6.	Cotton spinning factory	Tjilatjap
7.	Paper from wood pulp	Sampit
8.	Cannery: fish-powder	Aertembaga
Pro Memori projects:		
1.	Ice factory	
2.	Freezing room	
3.	Pilot factory for tanning extracts	
4.	Tanneries	

I. Special projects are those of greatest importance for the State. Four special projects are planned:

1. Asahan Project in Sumatra (including aluminium factory in Belawan)
2. Iron and steel joint project

3. Chemical and fertilizer industries

4. Rayon industry.

This is not an order of priority. Execution can be carried out concurrently by a number of independent bodies. In this case co-ordination is greatly needed. The total budget for the Special projects in this Plan is in excess of Rp 2 billion, but only Rp 1,78 million is provided for industrial projects and the balance is financed by the respective sectors (among other sectors are Communications and Electrical Energy).

1. Asahan Project consists of:

   a. Hydro-electric power production and its transmission system

   b. Aluminium factory (including alumina)

   c. Super-phosphate factory

   d. Cement factory

   e. Transportation and harbour facilities

   f. Pulp and paper (temporarily pro memori only).

In the Five-Year Plan it is hoped to install [illegible] Kw electric power.

2. The Steel and Iron Project is pro memori only and its execution can only be started in the second Five-Year Plan. At present, there is provided only Rp 25 million for this project to cover the cost of preparatory work and preliminary investigations.

3. Chemical and fertilizer projects will be placed under a Chemical and Fertilizer Industries Board and will consist of the following: caustic soda, acetic acid, sulphuric acid (three factories), urea fertilizer, sulphate of ammonia and super-phosphate fertilizer factories. Allocation for these industries for the Five-Year Plan is Rp 653 million. Certain questions arise concerning the fuel supply needed. Should natural gas, oil or coal be used ? Thorough investigations must be conducted to determine

whichproduct is the most economical to use as fuel. The possibility of merging the urea fertilizer project and the rayon project is not to be ignored.

4. For rayon manufacturing, preliminary investigations have been conducted concerning further forest research and chemical examinations of the wood material. Investigations will be conducted further concerning transportation and fuel. For several reasons, it is considered most suitable to establish the rayon factory in Palembang. This project which is situated near the Semangus forests in South Sumatra will absorb an appropriation of Rp. 700 million. Only Rp. 200 million will be provided in the first Five-Year Plan.

C. Central projects are those not included as special projects or regional projects, for which the responsibilities for execution is entrusted to a special institution of the Central Government. When a project is proposed, precise answers must be given to the following questions:

(1) Is there sufficient supply of the required raw materials of the right kind, quality and amount at the right time, place and reasonable price?

(2) Is there synchronization among the markets according to appropriate types?

It must be noted that not all of the central projects are new enterprises. All projects whether in their initial stages or already completed should be registered centrally. For this purpose, the State Planning Bureau can act as a registrar.

Of the Rp. 757 million allocation for the mining sector, most to the expansion of the Bangka Tin Mine (Rp. 300 million) and the expansion and reconstruction of the Bukit Asam Coal Mine (Rp. 407 million).

Manufacturing industrial projects included in special and Central projects

...ects	Location	Yearly capacity	Appropriation	Allocation in the Plan	Foreign exchange provided
			(in million of rupiahs)		
...dium (includ- ...alumina)	Balawan	18,000 tons	276	200	160
...r-phosphate	"		376	100	70
...ds	Palembang	(.....) (100 to 125,000 tons)	500	500	350
	"	10,000 tons	700	200	120
...ic acid	"	2,000 tons	21.4	21.4	11.4
...tic soda (for ...pletion)	Waru	3,600 tons	75	21	10
...phuric acid (3 factories)	Semarang	3,000 tons each factory	10.6	10.6	4.2
	Surabaja				
	Tandjung Priok				
...ton spinning (for completion)	Tjilatjap	3,900 tons (or 30,000 spindles)	56	9	1.5
...le spinning ...ll factories)	Medan (and in other places)	10,000 spindles per factory	10 (each factory)	45	25
...nt (for ...pletion)	Grosik	250,000 tons, increased to 375,000 tons	385	255	97
...nt	Medan	375,000 tons	400	150	120
...r, of rice stalks	Blabak	7,500 tons	60	60	27
...r (of wood)	Sumatra (Toba)	12,000 tons	125	45	20
...r (of wood)	Hotog	12,000 tons	95	95	68.4
...le	Surabaja	15,000 tons	65	65	12
...h canning	Aertembaga (Minahasa)	15,000 tons fish 270 tons fish powder (in 1960)	89	15	8
...jak Sempit" saw- ...l (expansion)	Kalimantan	54,000 m3	37,5	37.5	18.
...eration Iron and ...el project	-	-	-	25	10
		Total		1,854,5	1,132.5

(Note: if the required appropriation ... project is bigger than the allocation, it is to be understood that the project concerned will be completed in the second Five-Year Plan, i.e. after 1960).

Apart from the above projects, there are still some other projects which can be carried out if money is available.

The balance of the Rp. 2,279.5 million allocated for the manufacturing industries, amounting to Rp. 425 million, is allocated to the financing of regional projects through the Regional Development Banks.

b. Regional and private projects. Within the limits of available funds for the regions and private sector and subject to the principles of policy described above, the following list of various groups of manufacturing and mining industries is shown as suggestions for further activity. Information regarding the location, distribution, available production figures and target production is being collected and will be incorporated later with the regional planning.

For the time being, requirements in various fields are still so great in comparison with the available production that there is no fear of over-production: moreover, the increase of population and restricted imports of finished goods or industrial materials will keep domestic requirements at a high level. There will continue to be restrictions on the use of foreign exchange for the import of industrial supplies, capital goods and industrial raw materials, which are the main reasons for encouraging the use of domestically produced goods.

List of industries that have chances for development in Indonesia

Those marked xx are highly recommendable industries; those marked x are industries which it is hoped to have established for their connection with the Plan in the Government sector. The other are fields of industry that will open opportunities for industrial development with a guarantee of domestic markets for their products. The composition of this industrial list has been adjusted to official international industrial classification. For example, grass and match industries are included in the category of chemical industries.

Food, Beverage and Tobacco Manufacturing Industries:

- Foodstuffs:

xx Packing of foodstuffs for the retail market
xx Pooling, roasting, milling and packing coffee factories
xx Factories for grading, blending and packing tea
xx Fish drying and salting works
xx Processing plant for soy-bean
xx Vegetable oils factories
xx Slaughtering of animals, canning of meats, meat extracts, manufacture of bone meals as fertilizer
xx Dairy products
xx Fruit and vegetable canning industry
xx Conservation of milk in tins and bottles
xx Sugar manufacture and refining and manufacture of its by-products
Chocolate confections
Foodstuffs
Fish cannery
Margarine factories
Fish powder

- Drinks:

xx Fruit juice
xx Lemonade
xx Milk products
Fruit wine
Syrup

- Tobacco industies

xx Processing, mixing and cutting tobacco
xx Cigarette (by hand and by machine)
Cigar Factotios
Pipe tobacco

Textile industry:

xx Cotton spinning
xx Cotton weaving
xx Finishing of cloths
xx Bleaching
xx Spinning and weaving of rayons
xx Spinning and weaving of cotton and rayon combination
Ramie spinning and weaving
Dyeing

Hard fibers:

xx Manufacture of rope from sisal, roselle and mixtures of roselle and gunny, ramie, coconut fiber and other domestic fibers
Rags, cloth packing and manufacture of handbags

Knitting and ready-made clothing:

xx Ready-made clothing (for men, women and children)
xx Knitting
xx Nets (fish nets)
Mosquito nets

Wood-working and cork industries, except furniture:

xx Saw mills
xx Cleaning and processing rattan
xx Plywoods (triplex wood, etc.) and veneers
xx Wooden boxes
xx High-quality charcoal
xx Preliminary wood treatment for building construction
xx Coconut fiber

Furniture and household wooden articles:

xx Furniture making, including office furniture, from wood and wood and metal
Kapok processing

Paper and cardboard:

xx Wood pulp and paper, paper of rice straw, bamboo and waste
xx Kraft paper (packing paper)
xx Manufacture of office supplies, paper and cardboard
xx Newsprint
Cigarette paper
Sand paper
Cardboard boxes

Printing offices, publishing and related industries:

xx Printing presses for books and newspapers, particularly outside Java
xx Book manufacture and book binding

Tanning factories:

xx Tanneries
xx Shoe and sandal factories
xx Leather bag factories
xx Raw and prepared hide factories
xx Leather soles

Rubber goods factories:

xx Rubber processing (high quality)
Various kinds of rubber articles and rubber household articles
Rubber fans and driving belts
Rubber tubes for automobile radiators
Pharmaceutical articles
Rubber shoes and rubber-canvas shoes, rubber soles, rubber sole sheets, rubber heels and rubber balls

Automobile articles:

xx Tire vulcanizing
xx Automobile tire and tube factories
xx Bicycle tires and tubes
xx Motor cycle tire and tube factories

Chemical industries, assorted:

xx Varnish, lacquer and enamel factories
xx Packing chemical products for the retail market
xx Glue and estrine
Spirits
xx Starch factories
xx Insecticides, fungicides, parasite and weed killers
xx Acetic acid
xx Sulphuric acid
xx Soda ash
xx Formic acid
Caustic soda
Chloric soda
Hydrochloric acid and salts
Carbonate Solvay
Formol
Carbide
Phenol
Aluminium Sulphate

Pharmaceutical products

xx Cosmetics
xx Packing and manufacture of pharmaceuticals
xx Soap factories (washing and bath-soaps, etc.)
Herbaceous medicines
xx Disinfectants

Fertilizers:

xx Liquid ammonia
Nitrogens

Plastic, glass and ceramics

xx Glass factories
xx Glass, bottles, window sheets, spectacles and drinking glasses
xx Ceramics
Plastic goods and materials
Matches
xx Varnish appliances
xx Tanning extracts
xx Dry-wood distillation

Ink and paints:

xx Ink (for various purposes)
paints

Building material industries:

xx Cement
xx Gypsum and gypsum products
xx Floor tiles, pipes, roof tiles, flooring of cement
xx Bricks, roof tiles and high-quality drain pipes
xx Mechanically manufacture roof tiles and pipes
xx Hard boards
Ceiling boards
Other building materials
Limestone burning

Mining, casting and metal working:

xx Foundries, mills and workshops
xx Copper and bronze foundries
xx Tin foundries
x Aluminium foundries
x Aluminium mills
x Aluminium roofing sheets
xx Iron ore and ore preparation
xx Titanium mining and titanium ore processing
xx Silver mining and silver ore processing
xx Coal mining and processing of coal
xx Pitch for briquettes and other purposes
xx Manganese ore mining

Metal industries:

xx Iron goods, hoes and other agricultural implements
xx Can factories
x Aluminium ustensils
xx Packing tin
xx Wire products and wire matting
xx Nails and screws
xx Household articles
xx Fishing equipment
xx Hospital equipment
xx Soldering instruments
xx Nickle plating, silver and chrome plating
Household articles of metal
Office equipment
Locks
xx Acetic acid containers
Storage tanks
Drums - all kinds
x Aluminium plates and spoons
Copper and bronze moulds
x Aluminium molds
Moulds for iron goods

Machine industries and machine repairs:

x Equipment and replacements for factories producing rubber goods, minerals, agricultural products, railway workshops, textile factories, etc.
xx Manufacture of scales
xx Assembling plants for machines and other technical equipment
xx Workshop equipment

Electric equipment and electric repairs:

xx Light bulbs and tubes
xx Radio equipment factories
xx Electrical repairs

Transportation equipment:

xx Bicycle parts and bicycle assembling plants
xx Motor cycle spare-parts and assembling
xx Truck chassis
xx Ship-building - light passenger ships and cargo proas
xx Shipyards for building and repairs of light steel boats
xx Shipyards for building and repairs of wooden boats
xx Shipyards for building and repairs of fishing boats
x Spare-parts for railway equipment

Other industries:

xx Photographic equipment
xx Construction and repair workshops (mechanical) especially outside Djakarta

In addition to the above recommendations concerning different kinds of manufacturing industries, attention is also called to the possibilities of utilization of raw materials produced in Indonesia as listed below.

Investigations regarding the quantities of these raw materials may be carried out in conjunction with the preparations for any particular projects

- Mineral materials

Alum, asbestos, barite stone, bitumen, carium sand, copper ore lime, dolomite, natural gas, quartz, graphite, gypsum, iodine salts, kaolin and clay, lead ore, red-lead material, limestone, manganese ore, mercury ore, mica, nickel ore, jarosie oker, phosphate, pyrite salts, glass sand, silver ore, slate, sulphur, trass, titanum ore, coal, zinc ore

- Vegetable raw materials

Cane waste, balsa wood, bamboo, tapioca, charcoal, cinchona-bark, coconut fiber, copal and damar, coconut, cotton, peanuts, indigo, kajeput oil, kapok, kenaf, nilaoli oil, pinus timber, ramie, rosella fiber, rattan, rubber, sago, sisal fiber, soy-bean, sugar cane, bark for tannery (acacia, etc.), teak wood, tobacco.

CHAPTER 9

C O M M U N I C A T I O N S

Introduction

The Five-Year Plan for Communications includes:

Sector	Appropriation Rupiahs	Foreign Exchange
A. Roads and bridges	1,200	240
B. Shipping	350	285.2
C. Railways	600	187
D. Aviation	100	27.8
E. Harbours	275	138
F. Post, Telegraphs and Telephones	495	230
G. Inland traffic and waterways ..	40	20
H. Meteorology	15	5.5
Contingency	50	35.5
Total	3,125	1,169.0

The total therefore of the appropriations in the Five-Year Plan for Communications is Rp. 3,125 million, including Rp. 50 million as contingency for possible price fluctuations and indispensable projects. Of the Rp. 3,125 million total, Rp. 1,169 million is foreign exchange including Rp. 35.5 for contingency. Further information is given below for the separate sectors.

A. ROADS AND BRIDGES

For this section of the Plan, the Roads and Bridges Department of the Ministry of Public Works and Power has requested a minimum appropriation of Rp. 2,145 million. For lack of funds, the Government is only able to provide an appropriation up to Rp. 1,200 million for the five-year period, on the understanding that if the financial situation of the Government permits, a priority will be given to this sector, in view of the importance to the economy, administration and defence of the country of road and bridge construction.

For those reasons, the Government has to prepare an order of priorities for construction in the Five-Year Plan of roads and bridges based upon the use and types of work to be carried out. In agreement with the present Government work programs, priority must be given to construction of roads outside Java.

Priority:

The basis for priority of execution is as follows:

a. Highways for communications between Provinces

b. Roads connecting producing areas and consumers (towns, densely populated and deficit areas, small and large harbours for distribution of goods into the interior or out for export).

Types of work:

The types of work to be executed may be classified as follows:

1. Improvement: repairs to existing but damaged roads, followed by improvements and expansion, but for the most part without altering or shifting the routes.

2. Modernization: due to advancement in traffic and motor transportation, it is necessary that the roads be adjusted to such development, which means that the roads must be improved, expanded and strengthened and the tracks also improved.

3. Contruction of new roads: to be divided into two groups:

(a) construction of new roads as a connection between one road and another;

(b) construction of entirely new roads

Condition of roads, equipment and personnel

Roads may be divided into:

	asphalted	non-asphalted
1) State highways	3,200 km	5,000 km
2) Provincial roads	6,756 km	18,600 km
3) Regency roads	-	37.000 km
Total	9,956 km	60,600 km

The total length therefore of the asphalted roads throughout Indonesia is 9,956 km, plus 60,000 km non-asphalted roads - a total of 70,556 kms (excluding roads under management of village and municipal governments). There is a great lack of road equipment such as bull-dozers, roller machines, stone crushers, etc. and most of them should already have been written off. In view of this, an appropriation is provided for replacing road equipment to the amount of Rp 150 million.

Qualified and trained personnel are also lacking and ways must be found for overcoming this shortage.

Distribution of the appropriation

In connection with the length and condition of the roads, the available appropriation of Rp 1,200 for roads and bridges is divided as follows:

Allocation for	State roads	Rp 225 million
"	Provincial roads	415 "
"	Regency roads	410 "
"	road equipment	150 "
	Total	Rp 1,200 "

This allocation is made on the understanding that to attain maximum efficiency the execution of the road and bridge contruction and repairs is to be made by or under the responsibility of the Ministry of Public Works and Energy.

Allocation by Provinces is as follows:

Sumatra	Rp	390	million
Kalimantan		290	"
Sulawesi		52	"
Maluku		11	"
Nusa Tenggara		34	"
Java		230	"
Jogjakarta Special Territory		13	"
Djakarta - raya		30	"
Total.....	Rp	1,050	"
Road equipment		150	"
Grand total	Rp	1,200	"

Of this amount of Rp 1,200 million, Rp 240 million is in foreign exchange. Of the Rp 390 million allocated for Sumatra, Rp 25 million must be set aside for construction of roads and bridges in the transmigration settlements in South Sumatra. Appropriations provided for Inland Traffic and Waterways and the Meteorological Department are respectively Rp 40 million and Rp 15 million for the Five-Year period.

B. SHIPPING

The Government plan for shipping is as follows:

Coastal shipping will be reserved for Indonesian national shipping business; the major part of inter-island shipping for the Government and international shipping is open for national business (governmental or private) and foreign capital. To provide for inter-island shipping requirements, the Government, in April 1952, established a fully Government-owned limited liability company under the name of P.T. Pelni. This company has the task of replacing the present foreign shipping company fro inter-island navigation.

To attain the present position and the level of the foreign inter-islan shipping business, the Pelni must be equipped in two respects, viz:

1. Personnel

2. Material equipment

In order to be able to replace the present foreign inter-island shipping business, Pelni's fleet must be increased with a shipping tonnage of 150,000 tons B.R.T. (British registered tons). In addition to the requirement of additional ships, another urgent requirement is harbour equipment for the maintenance of the ships. The tonnage of 150,000 B.R.T. will be made up in 10 years. For inter-island shipping, an additional 90,000 B.R.T. is needed and for ocean shipping an additional 6 ships with a total of approximately 60,000 British registered tons. In January 1956, it was estimated that cost per B.R.T. averaged Rp 5,000.

But the available appropriation for this for the next five years is only Rp 350 million, including Rp 285.2 million foreign exchange. Rp 300 milli of this amount will be used for inter-island and ocean shipping. The additional tonnage therefore of Indonesian national shipping during the five-year period will be $\frac{300,000,000}{5,000}$ x 1 BRT = 60,000 B.R.T. Additional tonnage of approximately 14,900 B.R.T. is still required for coastal shipping. The Government hopes that this will be undertaken by private business. The Government will help by granting credits, foreign exchange, etc. However, should there be insufficient interest from private business in this sector, the Government will move more actively into this field.

Shipping requirements for the Government service must be greatly limited so the amount allocated for this purpose amounts to only Rp 50 million. With the use of possible credits from abroad, attempts must be made to increase the tonnage of our shipping with the available funds. Efforts must also be

made to use commercial shipping for official travel by sea, such as with Pelni and coastal trade ships. More efficient utilization of the Navy Yard in Surabaja should also be extended to commercial shipping.

Furthermore, development of private shipyards must be promoted by granting industrial credits through the Bank Industri Negara or private regional development bank. The increase in capacity and efficiency of the sea transportation will not be restricted to efforts to increase the number of new ships, but will also extend to improvements in the Government shipping and private shipping.

C. RAILWAY COMMUNICATIONS

The Railway Five-Year Plan consists, for the most part, of the rehabilitation of the damaged railway system in Java and replacement of damaged systems in Sumatra with new ones. In addition, this first Five-Year Plan covers also purchase of engines and material. The total length of the railways in Java is 4,700 kilometers, in North Sumatra 511 kilometers, in Central Sumatra 258 kilometers and in South Sumatra 643 kilometers, or 6,112 kilometers in total.

For the whole programme of railway improvement, the Government provides an appropriation of Rp 600 million, including Rp 187 million foreign exchange. Rehabilitation of the most important railway networks in Java and Sumatra requires an appropriation of Rp 250 million. This is needed to repair the damage imposed during and after the war.

The major repairs will consist in the first place of replacement of rails and fittings, heavier repairs where considered necessary, additional

ballast and replacement of railway beds as far as possible. At the completion of these repairs and improvements, the speed of the trains can be increased with safety so that their more efficient use will mean an increase in feight-carrying capacity. Included in the first Five-Year Plan is the rehabilitation of the railway network of 164 kilometers in South Sumatra between Kertapati and Tg. Enim for the transportation of coal from the Bukit Asam Coal Mine.

The other projects are:

- Construction of bridges in Java and Sumatra at a cost of Rp 60 million
- Purchases of engines and material worth Rp 240 million
- Signal and telegraphic equipments to the value of Rp 20 million
- Purchase of three ferry-boats with a total value of Rp 30 million.

Commitments already made outside the Five-Year Plan involve the order of thirty-five Diesel engines to be funded with the balance of the Eximbank loan and sixty-five hydraulic Diesel engines from the Krupp factory.

Table of improvement of the railway system throughout Java and Madura

A. Upper railroad

1. Repairing ballast and replacing rails of the Djatinegara-Tjikampek line (71 kilometers old system and 96 kilometers new system)
2. Dismantling Soketin-Bajah line and the rails to be used for concrete sleepers
3. Repairing track between Purwakarta and Padalarang, distance 54 kilometers
4. Welding rails in Java
5. Replacing rails 2 by welded rails 3 in South Sumatra
6. Repairing track Besitang-Langsa, distance 73 kilometers
7. Replacing No. 10 rails with No. 2 rails in Sumatra

B. Railway beds

1. Improving railway bed Djatinegara-Tjikampek-Pasirbungur line
2. Improving railway bed Tanah Abang-Merak
3. Improving railway bed between Kertapati and Tandjung Enim, distance 65 kilometers
4. Improving railway bed between Djember and Banjuwangi

C. Bridges

1. Replacing bridges according to the Five Year Plan between Tanah-Abang and Merak.
2. Replacing bridges between Probolinggo and Banjuwangi
3. Replacing bridges between Malang-Blitar-Kertosono
4. " " " Tjikampek and Padalarang
5. " " " Tjibatu and Kroja
6. " " Tjikampek and Tjirebon
7. " " " Tjirebon and Kroja
8. " " " Jogjakarta and Solo
9. " various Kw at harbours
10. " " Kw in West Sumatra
11. " " Kw in the surrounding of Kg. Bandan and Tanah Abang
12. " concrete bridges between Padalarang and Bandjar
13. " " " " Kalisat and Banjuwangi
14. " Kw 48 between Semarang and Djatiroto
15. Strengthening Kw 1458 in Kaliseraju

D. Telegraph and telephone installations

1. Installing selector wire with dispatcher selector system equipment in West Java Operations Section
2. Installing selector wire with train dispatcher equipment between Jogja-Solo-Weleri-Semarang-Brambang
3. Installing selector wire with train dispatcher telephone selector system equipments(t[illegible]phones) between Surabaja-Malang-Surabaja-kertosono, Surabaja-Lamongan
4. Selector telephone communication(supplementing and increasing the number of MM type D telegraph posts to 200)
5. Repairing underground cable throughout the railway system
6. Completion of telegraph wire A in Tjikampek-Solo-Kertosono in three directions
7. Standardization of telegraph and telephone equipments

D. AVIATION

For the air navigation Five-Year Plan an appropriation of Rp 100 million has been provided including Rp 27,8 million foreign exchange. The actual need for this plan is Rp 110 million. The shortage of Rp 10 million will have to be sought from the contingencies for the Transportation and Communications Sector, which amount to Rp 50 million.

This appropriation of Rp 110 million will be used for:

1. Construction of runways and hangars. In this regard, measures will be taken to adjust the airport construction plan of the Civil Aviation Service and the development plans for the Garuda Indonesian Airways air fleet. The amount provided for this work is Rp 53,800,000
2. To complete facilities, such as:
   a. Fire equipment is each airfield, which now is inadequately equipped for fire control, must be improved and completed. Appropriation for this is Rp 11,299,000
   b. Diesel generators and other electric power equipment. The amount allocated for this is Rp 19,947,000
   c. Radio communication and air-traffic control safety equipment, such as beacons and radio teletype communcation system, receivers, transmitters, etc. The amount provided for this item is Rp. 15,954,000
   d. Purchase of heavy equipment for construction of runways, for which an appropriation amounting to Rp 7,000,000 is provided
   e. To complete training equipment for the Indonesian Aviation Academy. The appropriation for this is Rp.2,000,000.

The purchase of additional Convair and Dakota aircraft to improve air transportation capacity within the country and with neighbouring countries is temporarily not included in the plan. But the planes will be purchased

if there is a possibility of getting credits from foreign countries for their financing, because this project needs practically only foreign exchange.

E. HARBOURS

For the Five-Year Plan for harbour, an amount of Rp 275 million is provided including Rp 138 million foreign exchange. This project is divided into the following:

1. Improvement of harbours under the French Contract Plan consisting of the following projects:

   a. At Tandjung Priok:

      (i) new landing stage and petroleum harbour
      (ii) third harbour, wharf 500 meters, go-downs, etc.
      (iii) first harbour, 160 meters wharf
      (iv) Additional coaster harbour of 300 meters

   b. At Belawan:

      (i) one new harbour, wharf and warehouses

   c. At Bandjarmasin:

      (i) new harbour, wharf of 200 meters, warehouses, etc.

   d. At Balikpapan:

      (i) new landing bridge of 80 meters length and warehouses

Part of this French contract must be postponed until after 1960 because the amount provided for the first construction plan amounts only to Rp 175 million whereas the total amount of this contract is Rp. 323,675,133.

2. Purchase of dredges, including equipment for clearing rivers. This work needs an appropriation amounting to Rp 20 million.
3. Construction of large harbours (an independent Government industry).
4. Urgent programmes for the outer Provinces are construction of small harbours including construction of wharfs, etc. For these programmes the amount provided is Rp 55 million.

F. POST, TELEGRAPHS AND TELEPHONES

An amount of Rp 495 million is provided for this project, including Rp. 230 million foreign exchange, distributed as follows:

1. Post.....	Rp 50	million
2. Telephone.....	325	"
3. Telegraph.....	60	"
4. Radio.....	60	"

1. Post

The character of the Postal Service is such that it requires no large capital investment, because it does not maintain its own transportation service for long distance transportation. The fixed investments consist of office buildings, office equipment and transportation equipment for local distribution and delivery of mail, postal parcels, etc.

Regarding the post office buildings it may be mentioned that most of the auxiliary post offices are now housed in private houses which in general are not suitable for post offices. Before the war, both office buildings and equipment were considered adequate. But the situation has now changed and become unsatisfactory due to:

a. Extensive damage inflicted on both office buildings and equipment

b. Increasing mail traffic in keeping with advancement attained in the educational and economic fields

c. Transportation service and private transportation companies are unable to give the service needed for transportation of mail

To overcome these difficulties, the primary efforts are directed towards:

a. Expansion and improvement of the old buildings with a total expenditure of.....	Rp 10	million
b. Construction of new buildings with a total expenditure of.....	30	"
c. Office equipment, etc., costing.....	10	"
Total	Rp 50	"

In addition to accommodating the increased postal traffic, it is hoped that the Five-Year Plan will also give an opportunity to extend the service provided as under:

Rehabilitation

a. Opening of C.O.D. (cash on delivery) domestic service
b. Opening of domestic telegraphic postal money order service
c. Opening of postal money order service with foreign countries
d. Opening of money collection service
e. Opening of postal letters of credit service
f. Opening of small-money exchange service for large companies
g. Opening of check service for the Army
h. Opening of insurance service
i. Expansion of the domestic and foreign postal parcel service

2. Telephone sector

An appropriation amounting to Rp 325 million is provided for this sector. The projects that should be completed in five years in the telephone sector are

a. Rebuilding of the major telephone exchanges which were destroyed during the revolution (the exchanges in Menado, Macassar, Malang, Solo, Magelang, Madiun, Bandung, Bukittinggi, some of which have been completed)
b. Expansion and renewal of some of the existing telephone exchanges and replacement of telephones which are over-age (in Padang, Pakanbaru, Palembang, Pontianak, Bandjarmasin, Den Pasar, Singaradja, Tjirebon, Surabaja and Djakarta)
c. To increase the number of telephones in places where telephone communications are lacking or insufficient (with priority outside Java). The lines, for example, for the Administration, which at present total 6,700 kilometers will be increased by approximately 10,500 kilometers.

c. An increase in the number of channels by using "carrier wave" equipment for long distance communications will reduce the waiting period for long distance calls to one half the present time.

d. An increase in the number of telephones to an average of 1% of the total population in each place.

3. Telegraph sector

The projects in the telegraphic field in the first stage are as follows

a. To attempt delivery of any telegram within one day throughout Indonesia by increasing the number of channels and extension of the working hours between the places concerned.

b. To widen the possibilities of sending cables, by increasing the number of cable receiving offices from the present total of 542 to 700 places, plus 650 in the State Railway Stations.

c. To channel cables of major users from the telegraph office through a Teleprinter Exchange (Telex) and private networks. Teleprinter Exchanges will be installed in Medan, Palembang, Djakarta, Bandung, Semarang, Surabaja and Macassar.

d. To increase the efficiency of the cablegram service, more use will be made of voice-frequency multiplex telegraph and its teleprinters.

4. Radio sector

Radio projects are primarily intended for increasing the number of channels for radio telephone and telegraphic communications as follows:

a. Where there is at present generally only one channel which is open twice daily for 1 hour for radio telephone communications between Java and important cities on other islands (while local post offices are opened 24 hours), these communications are to be expanded from 7.00 to 19.00 with the use of two channels.

b. These channels will also be opened between those periods for radio telegraphic communications.

c. To insure the secrecy of telephone and telegraph news exchange, radio communications between Djakarta, Surabaja, Medan, Padang, Palembang, Pontianak, Bandjarmasin, Balikpapan, Makassar, Singaradja, Den Pasar, Ambon will be conducted as follows:

(i) By use of "speech invertor" instruments

(ii) Multiplex single-side band technique

(iii) Microwave links technique and scatter propagation technique

d. For communications with remote islands and/or places and for use at the same time of the Government Administration, the number of small radio stations shall be increased by 60 stations.

CHAPTER 10

MANPOWER RESOURCES

I. Manpower and its relation to Economic Development

There are two important objectives in Indonesia in connection with the problem of manpower:

1. To provide a supply of workers with sufficient ability and training in sufficient numbers for agricultural and industrial production as well for Government enterprises and Government services:
2. To provide additional opportunities for work for unemployed and under-employed workers and to help workers' families with income below reasonable level by placing the members of those families who are able to work in a more productive undertaking. In this way, they will help increase the national income and economic improvement and at the same time improve their own standard of living.

II. Information on employment

1. The census of 1930

Reliable information regarding employment can only be obtained from the 1930 census. According to that census, the number of all workers of Indonesia at that time was 20,871,050. This is 34.4% of the total of the population. This percentage is rather on the low side compared with those for European and other Asian countries (India in 1931 42% and Japan in recent years 40%).

2. Latest employment figures

There is at present no reliable estimate of employment and there are only two possibilities of making an estimate:

1. Using a method of extrapolation as follows: if we take the 1953 population as numbering 80 million and use the same employment percentage as in the 1930 census, the result will be:

   1953 population : 80.0 million

   employed workers: 27.5 million (34.4% of the population)

   classified as follows:

		Employment (in million workers)	Employment percentage
Group I.	Production of raw materials	18.9	68.9
Group II.	Manufacturing industries	2.9	10.5
Group III.	Communications	0.4	1.5
Group IV.	Commerce	1.7	6.2
Group V.	Professions	0.3	1.0
Group VI.	Government service	0.7	2.4
Group VII.	Other occupations	2.6	9.5
		27.5	100.0

   This estimate is based on the assumption that the percentage of the population employed in 1953 was the same as in 1930 and the distribution into groups was also the same.

2. According to the latest information from all the available sources, the figures are as follows:

		Employed (in million workers)		Employment percentage	
		1930	1953	1930	1953
Group I.	Production of raw materials	14.4	18.2	68.9	60.7
Group II.	Manufacturing	2.2	4.0	10.5	13.3
Group III.	Communications	0.3	0.8	1.5	2.7
Group IV.	Commerce	1.3	3.0	6.2	10.0
Group V.	Professions	0.2	0.2	1.0	0.7
Group VI.	Government service	0.5	1.8	2.4	6.0
Group VII.	Other occupations	2.0	2.0	9.5	6.6
		20.9	30.0	100.0	100.0

We are extremely cautious in drawing conclusions from these figures because they are for the most part only rough estimates from indirect sources. On the assumption that the total of population in 1953 was 80 million, the total employment of 30 million is 37.5% of the entire population. This is more reasonable than the figure for 1930 which gives a percetage of 34.4%. If the unemployed numbered 2 million, the total of manpower is then almost 40% which is general in Asian countries.

If we compare the percentages for the various groups (or more exactly for groups according to economic activity), then we will note the following tendency: the percentage of employment in production of raw materials has dropped sharply and a moderate rise has occurred in almost all other groups. The highest increase is in the Government Service.

C. Estimated total of unemployed and under-employed

No reliable figures are available on the total of unemployed and under-employed. Registration for this purpose at the various offices of the Employment Services is negligible because: (1) only a small percentage of the unemployed have themselves registered; (2) and part of those that register already have work and register only to change to other employment.

As an estimate we may state that there are approximately one million unemployed and approximately eight million under-employed throughout the country. It must also be remembered that manpower increases by some thousands each year in excess of those that die or retire. In a few years to come, new employment possibility will possibly not be able to keep in speed with the increase of manpower, so that unemployment and under-employment will probably be felt more severely in coming years.

Development activities in connection with the Five-Year Plan will probably be able to lighten the pressure of unemployment but they cannot absorb (eliminate) all unemployment.

III. Government policy

A. Employment

1. Expansion of employment opportunities

The most constructive way to eliminate unemployment and under-employment is to open a greater field of employment in the manufacturing industry, construction, public works, commerce and other economic fields. But we cannot expect a large-scale increase of employment in these fields during the execution of the Five-Year Plan because of the level of investment and physical problems involved in such development will limit the degree of expansion. It is possible that during the next five years construction industries will be the only large group able to provide new work, because of the big volume of construction to be carried out in those years in new factory buildings, construction of roads, bridges, electric power generating stations, harbours, houses and other buildings.

In order to be able to create new employment, the emphasis must be placed on labour intensive activities rather than on capital intensive activities. In this case, production of consumer goods usually absorbs more manpower than basic industries such as collection and processing of raw materials. Emphasis may be laid on the expansion and improvement of small scale and cottage industries that use great amount of manpower and little mechanization.

The full influence of the construction of manufacturing industry on employment will only be felt after the first Five-Year Plan.

2. Transmigration

The problem of transmigration is discussed elsewhere. Transmigration is primarily directed toward moving of farmers from Java and opening of new agricultural settlement outside Java.

3. Community development

Community development programme is also a part of this Plan. It is highly probable that this will be the only short-term means for the solution of the under-employment problem in rural districts, because under this programme the village populations can create new employment themselves with some Government financial assistance and guidance alongside their regular work.

4. Special efforts for the unemployed

Special efforts to provide work for the unemployed are (1) to give priority to the unemployed in public works projects or contract works; (2) emergency work for unemployed; (3) assistance to small industries to provide work for unemployed.

I. Programme for collection of information on employment

One of the most important steps in the employment programme is to get more reliable and complete information about employment and unemployment. For this purpose, the following are recommended:

1. Manpower survey

This may be done with a sample survey which has been suggested as part of a general population and social survey.

2. Labour market situation

For administrative purpose, detailed information is required concerning employment, unemployment and the supply and demand for labour. This information must be obtained for the various regions according to categories of industry and occupations in detail and periodically - if possible regularly each month. In the next five years, assistance is needed by the

employment Service for improvement in the collection and analysis of information concerning the labour market so that at the end of that period there will be available detailed information of both a local and a national character.

3. Registration of industries

So far, registration of enterprises with ten or more workers or which use prime movers has only had a limited value because it is incomplete, lacks detailed information and has been conducted only once, so that it is useless for determination of the changes from year to year. It is hoped to introduce improvements in this field in a few years.

C. To raise labour productivity

There is no positive information available concerning the labour productivity of Indonesian workers and reasonable comparison is therefore not possible between the labour productivity before and after the war. But on the basis of the available information, the per man-hour production of the Indonesian workers has changed little since before the war. There are four highly influential factors affecting labour productivity which must be taken into consideration in determining the steps to be taken in Indonesia, viz:

1. Mechanization

The primary limiting factor here is lack of capital, specially foreign exchange. The speed of mechanization is parallel to the availability of capital and the Government capacity to import equipment.

2. Organization and technique

The best approach to this problem of increasing labour productivity is as follows:

Wise planning of the methods of organizing manpower, material and equipment in a work room generally knows as industrial engineering. The Government will give the opportunity for various types of industries,

especially small-scale national industries and Government industries, to get guidance in industrial engineering. This may be attained by establishment of a foundation or a semi-official institution known as the Industrial Engineering Service. An institution of this kind needs support from most of the workers and entrepreneurs, so that representatives of both employers and workers need to be included in the management board of this institution. In this kind of institution special attentionshould be given to the practicable methods of expanding less mechanized small manufacturing industries and enterprises.

3. Capability and skill of workers

Capability for a certain job is determined by sufficient selection among the workers and ensures their right placement in the enterprise. If a man is capable and interested in his job, his skill may be attained through education and training. Education and training may be given in school and special training courses or on-the-job training.

4. Work conditions

Investigations conducted in various countries have shown that condition of place of work and the physical condition of the workers have great influence on productivity. Place of work must be such that the work may produce maximum results at the minimum amount of exhaustion. An investigation is greatly needed concerning the relationship between work hours, food, temperature, etc. and exhaustion in tropical climates. Such an investigation can be conducted by universities or in co-operation with one of the institutions referred to above. Practical application requires an advisory body and establishment of minimum standards by law.

These two functions can be carried out by the Ministry of Labour.

5. Social and psychological factors

These are also called human factors which means the feelings or attitude of each individual worker toward his work and his social relationships in the enterprise. The Government needs to set up a committee composed of representatives of employers and workers, whose work can increase an interest in developing the state economy and give advice to both workers' trade unions and employers concerning the constructive attitude that should be taken toward one's work.

Employers should consider each worker as a respectable human being with his individual character and feelings and treat him according to his personality. This attitude should in the first place be cultivated among the supervisors and foremen. There is a Supervision Training Plan especially for that purpose, namely the Job Relations Training Plan in the framework of Training Within Industry.

D. To increase manpower mobility

There are two kinds of labour mobility, namely geographic mobility and occupational mobility. Geographic mobility has been carried out in the form of transmigration; there are also clearance procedure applied by the Employment Service offices of the Ministry of Labour. To promote greater mobility toward places where workers are needed, there should be sufficient attraction, such as availability of housing, schools, recreation and social services.

To facilitate transfer of workers to jobs with low labour supply, the following measures are necessary:

1. Collection, analysis and distribution of information concerning labour market.

2. Information facilities concerning labour in schools, offices and other bodies.
3. Sufficient training.
4. Special treatment by employers of workers willing to accept these jobs.

E. Use of manpower in connection with economic and social reconstruction

If outlines of construction plans of new industries, public works and other economic activities are definitive and explained in detail, a programme on the use of manpower in connection with the said development plan should be prepared and carried out. The main aspects of this manpower utilization programme are:

1. Determination of manpower requirements according to region and skill.
2. Adjustment of training programmes to the requirements of skilled labourers.
3. To prepare and carry out a sufficient manpower utilization programme, besides on-the-job training for technical and supervising personnel.
4. To improve Employment Service administration in order to be able to obtain the required personnel and to bring them to industries in need of them.

F. Disabled persons

Many disabled persons may still be put to work in economic activities. However, even if they have some expert knowledge, it is difficult for them to get suitable jobs. In order that they may participate in productive activities, it is necessary to provide them with jobs in accordance with their knowledge and ability.

C. Veterans of the Army and Revolution

In broad outline the Government efforts for those veterans are:

1. To bring about profitable co-operation between Government agencies concerned and veterans organizations such as: National Reconstruction Bureau, Labour Training Service and Employment Service, Ministry of Defence (BPBAT), Section C. of the Universities Service and other ministries with training facilities.
2. To fix deadlines for registration of veterans in order to determine from now on the approximate date when the task of providing veterans with work will be completed.
3. To investigate the condition of veterans in order to find out:
   a. who actually are veterans;
   b. who actually are jobless and need Government help;
   c. the level of education of veterans in connexion with planned vocational training and other required information.
4. To hold vocational training courses for veterans who cannot be put directly to work but have special talents. The vocational training should be adjusted to the requirements of economic development in order to ensure their employment after completion of training.
5. Training must be coupled with social education and information, etc. which are required to speed up the adjustment of veterans to the new atmosphere of their future place of work.
6. As the settlement of the veteran problems approaches its completion, a simple office should be established to follow further developments of the efforts in progress. This office is to prepare a periodical

report and should new problems arise in future give recommendations to the Government for their settlement. This office may also be entrusted to one of the ministries closely connected with the veterans problems.

In this connexion may be mentioned the preparation of the Veterans Affairs Law.

CHAPTER II

L A B O U R R E L A T I O N S

I. Introduction

In accordance with the general principles laid down in the Provisional Constitution, the fundamental policy in industrial relations is directed towards realization of social equity for workers, which also means protection of the economic and social positions of workers. Realization of this policy is in giving proper place to workers as a manpower factor in the process of economic and social development.

To ignore the interests of workers is to ignore one of the most important aims of the economic development itself. On the other hand, to ignore economic obligations is to harm the interests of workers themselves.

An important problem in the economic obligations is stabilization of labour relations. Concrete planning in this field will be attained step by step; investigations are therefore still required. At the present stage, only a review of the problems and purely general formulation of policy are being made.

II. A. Labour relations and economic development

1. Stabilisation in labour relations

Economic development can only progress smoothly if there is stabilization in labour relations, in the sense that there is no disturbance in the process of production, especially in major industries. To attain this stabilization, it is not necessary to prohibit labour strikes or labour lock-outs; what is needed is restriction of strikes and look-outs in certain fields and such limitation should be solely in the public interest and to ensure development of the state economy.

Apart from that efforts should be made to improve and stabilize labour relations in each sector of industry, both in respect of the form of organisation or the material of that labour relation.

2. Labourers and the increase of national production

The Government endeavours to convince the interested parties that wages and the standard of living of the people, especially the workers, can only be improved if there is increase of national production and national income. Accordingly, a reasonable compensation for the efforts of workers in increasing production and national income should be sought in the form of wage increases.

3. Distribution of income

It is an undeniable fact that workers generally have no time to muse on high ideals, but are more interested in the questions of wages and daily expenses for themselves and their families. The Government therefore must try with all its might to lighten these burdens of the workers and to prevent accumulation of wealth in the hands of a handful of people only.

4. Stimulation to produce

Increase of production may be obtained by:

a. an increase of the production of labour;

b. an increase of per man-hour labor productivity.

The latter item probably requires new type of machinery and big capital investment. The first item, on the other hand, can be applied by creation of enthusiasm for work among the workers. For this purpose, there should be conducted investigation on work stimulation by establishment of labour productivity institutes.

5. Workers' role in planning and joint concultative bodies

Workers will possibly be indifferent towards big projects if they are not invited to participate in the preparation of work programmes and are not given the chance to participate to determine economic policy. For this purpose, mutual concultative bodies between wokers and employers are required in each industry, both Government-owned or privately-owned.

6. The problems of workers not united in organizations

Out of approximately 33 million workers in Indonesia, not more than 5% are united in trade unions. Government efforts will not be restricted to workers united in trade unions only but will also cover workers outside trade unions.

7. Workers as consumers

There are two ways to raise the standard of living of workers, viz:

a. to increase wages;

b. to lower cost of living.

Spontaneous increase of wages uncoupled with increase of production will soon result in increase of prices that will eliminate the profit of the increase of wages and place workers outside labour organization and peasants in worse position. Workers therefore as consumers are interested in price stabilization and the decrease in price level.

8. Rights of employers

Entrepreneurs should have sufficient freedom to organize their business efficiently and to get reasonable profit. Besides that the Government must help small businesses and peasants in setting up their organizations and federations in that way they may be given assistance and technical advice in the marketing of their products and other fields.

B. The condition of industrial relation at present

1. Brief history of industrial relations

It is seem from the history of industrial relations that there has been a rapid change in comparison to conditions before the war. Expansion of labour organizations and the establisment of a separate Ministry of labour reflects the importance of labour problem in Indonesia. As a consequence of this fast change both workers and employers are confronted with many difficulties in their efforts at adjusting themselves to this changed situation. This is aggravated by the absence of a national law on labours relations in accordance with the present developments.

It is therefore considered highly necessary to lay down the fundamentals of labour relation in new legislation and measures to ensure stabilization of labour relation within a definite period for both protection of workers and as a means for entrepreneurs to work as efficiently as possible, by laying down the position of union in the enterprise and the form of co-operation between workers and employers.

2. Basic provisionsin the Provisional Constitution affecting labour

Articles 20, 21, 28 and 36 are a basic foundation of Government policy in the field of labour. The provisions in these articles guarantee the right to strike, hold demonstrations, hold meetings and conferences, the freedom to choose employment, equitable labour conditions, reasonable living for workers and their families and employers' obligations to promote security and social services.

3. Legislation in force concerning rights of negotiation, recognition of trade unions and the fundamentals of labour relations

The most important law in this field is Law No. 16 of 1951 concerning settlement of labour disputes. This law rules that workers and employers alike must inform beforehand their intention to strike or to lock-out workers to officials of the Ministry of Labour concerned and in the event that the said officials do not succeed in bringeing about a settlement in the dispute. They are then required to refer the matter to the local labour mediation committee (P4D) and should this committee also fail, the matter must be further referred to the Central Mediation Committee (P4P) as an authority to pass final decision.

Another law on labour is Law No. 21 of 1954 concerning Labour Agreements. The most impoortant provisions of this Law are found in articles 11 and 12 which stipulate the authority of the Minister of Labour concerning the application of labour agreements to industries of the same type, but which have not entered into the said labour agreements; the same labour conditions must be granted by employers and entrepreneurs to trade union or labour federations.

4. Government role in negotiations and settlement of labour disputes

At the present stage, the Government must take an active part in this matter. Article 13 of Emergency Law No. 16 of 1951 stipulates the authority of the Central Government in using all efforts and in judging everything according to Law in agreement with the existing agreements, social equity and the interest of the state.

C. Plan for improvement of labour relations

1. Policy on creating economic progress

Government policy in labour relations is based on the following factors:

a. to raise the level of standard of living. - Economic advancement means increase of production of goods and services. It is from the increase of production that the standard of living of the people including workers and entrepreneurs can be raised.

b. relations between production and labour relation. - Production can only proceed smoothly if there are good labour relations on the basis of brotherly principles. This means that productive activities of both workers and employers are for the mutual interest of each.

c. harmony in labour relations. - Both workers and employers require stable relations and a harmonious atmosphere in the form of organized relations in order to be productive.

d. skill in work. - In order to be able to produce with good results, it is essential that workers are given sufficient vocational training.

e. rights of entrepreneurs. - Entrepreneurs must be given the right to manage their business efficiently and rationally. They are also given the chance to make reasonable profits as a stimulation to increase production.

f. rights of workers. - As a counter-balance for responsibilities imposed on workers in the efforts to increase production, they are entitled to social services indluding:

(i) social services outside working hours such as housing and medical care;

(ii) in their daily relations between workers and employers, workers should be given a place and treated as human beings and as respected partners.

2. Policy on creating social progress

Workers and their families are entitled to social guarantees including economization in manpower, labour conditions that provide good health, security and old age security, in time of illness and unemployment.

3. Principal efforts to attain these objectives

a. For the attainment of economic advancement

Efforts toward attainment of economic advancement be directed toward a situation in which labour productives may be raised.

b. For the attainment of social progress

(i) Efforts for improvement of relation between employers and workers:

(a) To bring workers and employers closer together by creating a better understanding between them.

(b) Efforts for improvement and expansion of labour organization.

(c) To promote development of joint consultation between workers and employers or between workers themselves in the businesses themselves and on a broader basis.

(d) To attempt to bring about introduction of collective work agreement for specified periods.

(e) To facilitate and simplify the prodedure of settlement of labour disputes.

(ii) To expand protection regulations for workers by establishment also of Sanitation and Health Institutes and Material Research Institutes.

(iii) To expand regulations on social security and welfare for workers.

4. Research and education in labour relations

a. Investigation concerning labour relations

In order to be able to realize the principles in labour relations for the preparation of more concrete plans, it is necessary to conduct special investigations as follows:

(i) To establish Labour Relation Research Institute that has a close relation with the Faculty of Economy and that in co-operation with the Labour Inspection Service conducts the following investigations:

investigation on collective bargaining, labour disputes, manpower utilization, morale of workers, wage systems, personnel policy plans, regulations for the protection of workers;

(ii) To recommend the establishment of such institutes to both workers and employers as in the case of the Employers' Associations for Labour Welfare in Indonesia;

(iii) To have special publications on labour relations.

b. Education in labour relations

(i) School education: It is necessary to give lessons in secondary schools, technical and other vocational schools concerning the method of promoting workers organizations and others in connexion with labour relation and in questions affecting the protection of workers;

(ii) Curriculum of universities: In universition, the subject of industrial relation be included in the curriculum for business and public administration;

(iii) Training of Labour leaders: To hold training courses for: fundamentals of economics, fundamentals of bargaining, principles of unions organization and administration, labour economics, industrial psychology and sociology, protection of

workers, etc.;

(iv) Training for management: Especially for small businesses and Government enterprises, special training courses in industrial relation and in personnel affairs problems are urgently required.

5. Legislation concerning industrial relations

The following efforts are necessary:

a. to complete the law on industrial relations;

b. to review or to renew the law and or regulations as follows:

(i) Safety regulation;

(ii) Lead-white ordinance;

(iii) Fireworks ordinance;

(iv) Industrial work ordinance;

(v) Steam ordinance;

(vi) Fees regulation.

c. to supplement and amend Government regulations for the implementation of Labour Law of 1948.

6. Wage policy

a. Factors that must be considered in determining wages:

(i) Living requirements of workers and their families;

(ii) Ability of employers to pay wages;

(iii) General improvement in the standard of living;

(iv) Influence of wage system on production;

(v) The value of labour: the object is to prevent "sweating" or too low wages for hard work.

Apart from that, it is necessary to use the following guides:

(i) Wage level must be in agreement with the national economic policy, i.e. does not create either inflation or deflation;

(ii) Wages must conform to the skill and efforts of the workers.

b. The general objective of wage policy is the protection of workers. This may be accomplished in three ways:

(i) The abolition of malpractices in payment of wages;

(ii) Fixation of minimum wages.

(iii) The adjustment of wage levels to the needs and progress of economic development.

c. Implementation of wage policy. Stages of the implementation of wage policy should be as follows:

(i) Research and collection of statistical material as a basis of sound wage structure;

(ii) Determination of the rate of wages by negotiations, mutual understanding and fixation thereof by competent agencies;

(iii) Establishing an instrument for fixing minimum wages;

(iv) Elimination of unfair treatment in the payment of wages.

CHAPTER 12

E D U C A T I O N

A. Introduction

The system of education in the past was entirely inadequate. In fact, elementary education, which is now the right and primary need of every citizen, was limited to a very small section of the people only. The lack of secondary and higher education to produce technicians, agriculturists, administrative specialists, could certainly not be denied.

Lack of skills both in Government and private business is one of the primary reasons for low productivity. Production factors that are constantly in number, if combined with skills, would certainly increase the productivity per capita and consequently enlarge the national income.

A smooth process of economic development can only proceed fast if supported by the majority of the people. This is the task of mass education.

B. Education Policy and Planning

In view of these observations, the state educational policy is directed toward:

a. giving general elementary education to all children between 6-12 years of age as soon as there are sufficient schools and teachers;

b. expanding secondary education, especially secondary vocational education and vocational training courses;

c. consolidating higher education to guarantee the availability of scientists required for the continuation of development;

d. promoting mass education in accordance with the rapid development.

A democratic country with a vast and complex area requires citizens who are able to read and write. Without this basic ability, democracy, in the true sense of the word, cannot be attained because participation in government is significant only if the people are conscious of the situation and use their own judgement. Therefore, one must have the ability to read newspapers, understand the meaning of the news broadcast on the radio,

have enough notion of the structure of the political, economical and social life. Thus, elementary education must be the basis for the further development of democratic institutions.

In general it is difficult to train people for any job unless they have had an elementary education. Anti-illiteracy campaigns and the carrying out of compulsory education, free of charge, must, within a short time, be our primary goal. However, to meet the need for skilled labour in the development of industries and other sectors, it is necessary to promote this regardless of whether or not compulsory education can be carried out. This shows the importance of technical and vocational training which does not necessarily mean that general education as a basis is not important. Care must be taken that an emphasis on vocational education does not narrow down the field of education and that, on the other hand, too great an emphasis on general education does not create a surplus of "would-be white collar workers".

In the realization of the education plan, first priority must be given to fields of education that will produce the required personnel for sectors which have priority in the Five-Year Plan. This priority is given, amongst other things, to industrialization programmes in an effort to change the economic structure towards a balance between manufacturing industry and agriculture. Large numbers of technicians are needed for industrialization, both on the middle and upper levels. Apart from that, technical personnel are also needed for building up the so-called infra-structure of the economy, which is indispensable for the realization of the industrialization programmes. This infra-structure includes, inter alia, construction of central electric power stations, harbours, roads and bridges, dams, etc. Communications and mining plans which have priority in the Five-Year Plan also require special technical personnel.

Priority is also given to agriculture educational programmes in order to increase food production to supply sufficient food for a reasonable living. Other fields that need attention are the reconstruction of Government administration as a primary condition for smooth realization of the reconstruction programmes. The lack of experts in this field has long been felt and all efforts to relieve this shortage of capable expert personnel must be given a top priority.

In the social service sector, attention is called to public health which actually constitutes an important factor in development activities. Special attention is given to the training of expert health personnel.

Investment Budget for Education

The total estimated investment for education allocated from the reconstruction budget is Rp 1,050 million for the coming five years or Rp 210 million per year. This amount is allocated for education under the Ministry of Education and for elementary education under the Ministry of Home Affairs. Allocation of education projects according to priority during a period of five years to come is as follows:

Table I - Five-Year Investment Budget

Projects	Amount in million rupiahs
1. Elementary education	440
2. Secondary education	450
3. Higher education	120
4. Mass education	40
Total	1,050

The greater part of the appropriation for investment in secondary education is for technical education.

D. General Elementary Education and Compulsory Education

1. It has been stated in section B above that elementary education is a basic requirement for development of democratic institutions. Act 4 of 1950 of the Republic of Indonesia, chapter VII, article 10, which has been promulgated by Act 12 of 1954 for the whole of Indonesia, states:

"All children reaching the age of 6 years are entitled and children already reaching the age of 8 years are obliged to attend schools for at least 6 years".

The Ministry of Education has continuously placed the compulsory education programme as the first priority in all its work programmes.

In the Five-Year Plan of the Ministry of Education from 1955-1960 its objectives have been stated as laying the foundations for the development of compulsory education. It is planned to introduce compulsory education by the school year 1960-1961.

2. The main difficulties faced in the question of study and education are:

a. lack of teachers for elementary schools;

b. lack of school buildings for primary schools and lack of equipment;

c. lack of school equipment in general.

The burden of this obligation might be realized if comparison is made between figures reflecting the present situation (Table II) and the change needed if compulsory education could be carried out.

Table II - Actual situation (1950-1955)

Year	Total of children of school age for compulsory education (6-12 years)[1]	Total of elementary school children[2]	Number of elementary schools[2]
1940	9,161,880	2,021,990	18,091
1950	8,805,665	4,977,304	24,775
1951	8,549,090	5,609,485	24,254
1952	8,677,350	5,597,045	27,342
1953	8,812,650	5,935,752	27,400
1954	8,949,930	6,624,159	31,802
1955	9,909,960	7,034,239	32,126

Sources: 1) State Planning Bureau
2) Ministry of Education

Table III - Situation under compulsory education

Year	Total of children of compulsory education age	Total of elementary schools required
1956	10,907,000	43,608
1957	11,089,000	44,356
1958	12,152,000	48,608
1959	12,803,500	51,214
1960	13,407,000	53,880

Sources: State Planning Bureau

Note: 1) Assuming increase of population 1.7%.
2) Assuming each school contains 250 students (as laid down in the Compulsory Edudation Plan of the Ministry of Education).

3. It is evident from the above figures that the future situation will be as follows:

If the compulsory education plan will be carried out in 1960/1961, 54,000 elementary schools are required. In 1955/1956 the number of elementary schools was 32,000. During the next five years, therefore, 22,000 elementary

schools must be added, requiring 22,000 x 6 teachers = 142,000 school teachers or 28,500 additional teachers each year. Taking into account the number of teachers leaving schools on account of retirement, death, etc., the number required must be increased to 30,000 per year. In addition, school equipment will be needed for 22,000 elementary schools which means approximately 6,000,000 pupils within the next five years.

4. a) Teachers - The shortage of teachers can be overcome through the Ministry of Education programmes. There are now approximately 500 junior teachers schools turning out an average of 30,000 graduates per year, beginning with 1956. This is explained further in the chapter on secondary schools.

b) Schools - According to estimates, an allocation of Rp 440 million can be made from the development budget during the next five years for construction of elementary school buildings. This means that the Government can only supply Rp 20,000 for each school building if the entire plan is to be carried out. Hence, it is certain that the realization of the compulsory education plan depends greatly on the willingness of the people to carry this heavy burden.

The Government will endeavour to arouse the auto-activity of the people. The Village Community Development Plan can be directed toward organizing village traditions of mutual assistance on the basis of the principle of self-help among the rural population, under guidance and assistance of the Government.

In this plan, reference is also made to construction of school buildings, purchase of school equipment, etc. (see further chapter on Village Community Development Plan). In the past, school buildings have been constructed in various regions by and at the expense of the rural communities themselves.

c) School supplies (equipment) - School supplies may also be provided by the rural population themselves as well as the Government as in the case of elementary school buildings. It is recommended that school equipment manufactured domestically be used.

5. In addition to subjects of a general character, it is also considered necessary to give lessons in practical vocational subjects in elementary schools, according to local requirements: for example, in agricultural districts lessons in farming and in fisheries districts lessons in fishing, fish-breeding, etc.

2. Secondary schools

1. The situation with regard to public secondary schools at the end of 1955 is as follows:

The total of junior secondary schools is 1,280, consisting of 326 Junior High Schools (S.M.P.) and 954 vocational schools of various kinds. The total of senior seconcary schools is 191, consisting of 81 S.M.A. (Senior High Schools) and 110 vocational schools of different kinds. In addition, there are some scores of secondary schools of the Ministry of Agriculture such as the S.P.M.A. (Agricultural Senior High School) and Senior Forestry High Schools, Veterinary Secondary Schools and under other ministries such as the Secondary Schools of Technology, Railway Technical Secondary School, Secondary Navigation School, Assistant Pruggists School, Police Commandant Schools, etc. Apart from that there are also several thousands of private secondary schools for general education.

2. The number of secondary schools in insufficient to absorb graduates of elementary schools wishing to continue their studies. On the basis of the number of elementary schools in the next five years, each producing 40 graduates every year, the total number of elementary school graduates will be approximately 1,800,000 per year.

On the basis of the percentages of elementary school children passing the matriculation examinations for secondary schools in the past few years and the improvement of the standard of education in the coming years, it is estimated that in the next five years 25% of the elementary school graduates will pass matriculation examinations for secondary schools. Room must therefore be provided for 25% of the 1,800,000 school children leaving elementary schools or 450,000 students in the secondary schools. At the end of 1955, there were about 1,300 public Junior High Schools, receiving only about 130,000 new students. The same problem also appears with the graduates of Junior High Schools wishing to continue their studies in the Senior High Schools.

3. In view of this situation the policy of the Government is as follows:

(a) to increase the number of secondary schools;

(b) to increase moral and material help to private schools.

An attempt will be made to build about 1,600 Junior High Schools and about 200 Senior High Schools under the Ministry of Education in the next five years.

(Note: The 6-Years Teachers Schools, which are an incorporation of S.G.B., Lower Teachers School, and S.G.A., Upper Teachers School, are included in the category of Junior High Schools).

The increase in the number of vocational schools is relatively larger than the increase in schools for general education: this is especially the case with regard to technical education (Technical Lower Schools, Technical Schools and industrial schools). The expansion in the S.G.A. is actually a change in the field of teacher training for elementary schools, planned beginning 1958 by the fusion of S.G.A. and S.G.B. into a S.G. (Teachers School) with 6 years course. It is hoped that the number of vocational schools under other Ministries will also increase considerably.

If the above plan can be realized as from 1960, the number of lower secondary schools under the administration of both the Ministry of Education and other Ministries will be approximately 3,000. This means that 300,000 new students can be received each year.

4. Another problem in secondary education is the training of teachers required for the compulsory education programme. In 1950 a start was made with rapid courses for elementary school teachers. In 1956 about 500 lower teachers schools are in operation which are expected to produce about 30,000 teachers per year. Since about 30,000 teachers per year will be needed in the coming years, the increase in the number of teachers will be adequate for the expansion of the elementary school education.

5. As has been stated above, first priority is given to vocational (especially technical) education. Apart from endeavouring to provide more technical and vocational education facilities, efforts should be made to encourage graduates of elementary schools to continue their studies in vocational shools and to eliminate the notion that secondary schools for general education have a higher value than vocational schools.

An investigation should be conducted into the signs of whether it is true that industries are unable to absorb graduates of technical schools. They must be given jobs in the industrial sectors which are in need of technical personnel as shown by the labour market analysis. (See chapter on Manpower resources, section on employment of manpower).

Furthermore, concerning the fundamentals of development of technical education in Indonesia, it is necessary to take note of the opinions expressed in the Technical Education Survey Team report on the investigations conducted by this Team in Indonesia upon the request of the Indonesian Government. A summary of the report is attached to this plan.

6. The allocation for development of secondary education for the next five years is Rp 450 million or Rp 250,000 of development capital outlay for each school. It is hoped that about 2/3 of the allocated amount will be used for vocational education and training.

7. It is evident from the above that the need for secondary education cannot be provided by the Government alone. Therefore, the people must give their assistance by construction of schools or making available buildings which may be used for public secondary schools. Development of private secondary education must be encouraged and given material and moral help by the Government. However, private efforts must be supervised to a certain extent to prevent disturbance in the balance of requirements between various sectors of development activity.

I. Essentials of Extra-curricular Technical Training

Apart from technical schools, there are other technical training courses carried on by both Government and private institutions. This section gives an explanation of the essentials that require consideration in arranging such training.

1. Co-ordination and review of the existing technical and vocational training.

   At the present time, various ministries and Government departments are carrying on different kinds of technical and vocational training courses, for example the Ministry of Labour. The Ministry of Labour has a vocational training programme for the unemployed between 18 and 36 years of age, in order to equip them with some skill to get jobs. At the present time, 1,000 people are trained in 30 training centers in various places in Indonesia. A programme is being prepared for the expansion of these training centres, for improvement of training institutions and equipment and for training of instructors. In addition, there are many other vocational

training centers carried on by the Government, of which the most extensive is being provided by the Ministry of Communications (Railway Service, Communications, Civil Aviation, Shipping, etc.), Ministry of Agriculture, Ministry of Economic Affairs and Ministry of Defence.

It is essential that vocational training activities are co-ordinated to avoid duplication and that those training courses are adjusted to the needs of the Government and private industries, as one overall plan. Therefore, a special committee will be instituted with executive and advisory functions and with an authority to decide which training is necessary for each ministry.

"In-plant" and "on-the-job" training.

The type training with highest probability of producing results within a short time and with the minimum of investment in buildings and equipment is what is called "in-plant" and "on-the-job training". This training is intended for workers to equip them with a skill for more effective and productive work as well as to prepare them for better positions which require a higher vocational training or requires a greater responsibility. The two kinds of training are almost identical except that "in-plant" training is more extensive than "on-the-job" training. Both types may take a variety of forms as follows:

a. "On-the-job" educational training for workers with special skills, who have already worked in several enterprises. The object is to increase their level of skill. Such training is conducted in enterprises (governmental and private) of a higher class. In some cases, it is necessary to import technicians from foreign countries to assist in this training. In certain

cases, it is possibly necessary to send the personnel to be trained abroad, especially if they need training in large-scale enterprises which are not found in Indonesia or whose facilities are either inadequate to meet the requirements or have no facilities yet.

b. Apprenticeship training for candidate employees with special skill. This training is conducted by entrepreneurs or federation of entrepreneurs for young people in order to give them special skills systematically, on the understanding that these young people work for the said entrepreneurs during the training period. Such courses usually take a period of two years. At the completion of the training they continue to work for the said entrepreneurs as skilled personnel.

c. Training of executive and supervisory staff. Improvement of productivity in Indonesia depends greatly on the management and supervisory personnel. One effective form of training of this kind is called training within industry (T.W.I.). This T.W.I. training consists of :

(i) Job instruction training: this is intended to train foremen in efficient methods of guiding workers in their jobs.

(ii) Job methods training: a simplified training for supervisors on the methods of carrying out plans and improvements.

(iii) Job relations training: to train supervisors in arranging job relations and to solve problems and dissatisfaction of workers.

It is highly advisable that this T.W.I. is conducted immediately because this kind of training requires a relatively short time

to get satisfactory results. Moreover, this training has been conducted extensively in other countries including India and Japan. For the conducting of T.W.I., it is probably necessary to get the help of experienced trainers from abroad. It will also be very profitable to send Indonesian trainees to other countries that are conducting T.W.I. in an extensive way.

3. Training for new enterprises.

It is recommended that in setting up any new industry, it is provided with a detailed plan for training foremen and workers in special skills. For industries that are established with foreign capital, condition must be stipulated that the planned industry must train its Indonesian personnel in order to enable them to manage that industry after a certain period of years; also industries that are to be operated by the Government must provide its personnel with such training. In the case of setting up new industries with Indonesian capital, the condition of training personnel must be included in the agreement.

4. Regional aspects.

It is extremely important, for the future reconstruction of Indonesia, that training programmes should be carried out in regions outside Java to meet with the requirements of each region, even though the priority requirement for workers with special skills is in Java. If economic activities are developed on the other islands, the need of those islands for skilled workers will be greater. This will also decrease the migration from other islands to Java where they can get education and training.

5. The role of the Government and private industry.

Training must be adjusted to present and estimated future requirements. Until now there is no labour market analysis available here. The Ministry of Labour is working on this now, but the results can only be expected after a few years. In the meantime the nearest estimates are made regarding regional and local requirements on the basis of the available information. The Labour Exchange Statistics Committee is charged with the duty of collecting and analyzing the available information.

One important principle is that the Government is not planning to conduct alone all of the required courses for greater productivity. As far as possible the cost of such training must be borne by private industries and they must be responsible too for the arrangement thereof, since it is an integral part of the production process. The object of the courses carried on by the Government is to give opportunity to both small and Government industries to raise their productivity and to enable them to compete with larger enterprises, domestic or foreign.

C. Higher education

1. Expansion of higher education must, as far as possible, be adjusted to the increasing requirements of skilled personnel in connexion with the execution of the reconstruction plan in general and of the sectors with priority of execution in the plan in particular. Until now the tendency in the establishment of institutions for higher education (private universities in particular) has been just to set up colleges because there happen to be instructors available, without full consideration to the labour market demand and the process of development.

2. The condition of higher education at the end of 1955 was a follows:

There were three public universities namely: the University of Indonesia with 10 Faculties and 9,669 students, Gadjah Mada University with 12 Faculties and 7,937 students and Aerlangga University with 4 Faculties and 3,268 students. In addition to that, there were 12 independent colleges which were not related to any university, among which the Medical College in Medan, the Teachers' College in Bandung, etc. There were also 24 private colleges with a total of 2,893 students.

In September 1956, two universities were established, one in Macassar, the Hasanuddin University, and the other in Bukittinggi (Central Sumatra), the Andalas University. The establishment of these universities is in agreement with the Government policy not to centralise education in Java only.

The numbers of university students and graduates at the end of 1955 were as follows:

Technical students 3,492 (graduates 86), mathematics and physics 1,068 (6), medical 4,185 (113), Agriculture 1,040 (51), Veterinary 6,438 (13), Pharmacy 377 (19), Economics 2,520 (13), Law 6,438 (171).

3. The requirement of technicians and skilled workers for the next five years is not yet known owing to lack of labour market analysis and correct estimates of technicians needed for the various ministries and private industry. Some idea of the need for technicians can be obtained from the following estimates.

The Indonesian Engineers Association estimates Indonesian requirements of technical personnal for the next five years roughly as follows: for the Government Service 3,200 with bachelor's degree and 575 with master's degree, and for private industry 4,000 technicians, making a total of 7,775 technicians. The percentage requirement of technicians for various fields

is specified as follows:

Table IV. Technicians required

...ector	Ministry of Agriculture	Department of Industries	Bureau of mines	Ministry of Public Works and Energy	Ministry of Communications	Average
	%	%	%	%	%	%
...l	-	-	-	70	55	25
...nical	-	15	15	4.7	80	11
...ation	-	-	-	-	5	1
...s	-	-	-	-	10	2
...rial	-	15	15	16	10	11
...ical	3	15	5	-	-	5
...logical ...	8	15	-	-	-	5
...g	-	-	40	-	-	8
...gical	8	-	20	-	-	6
...ultural	27	-	-	-	-	6
...ing	-	4	-	9.4	-	2
...r	54	40	5	-	-	18
	100%	100%	100%	100%	100%	100%

Indonesian Engineers Association.

The number of physicians required, as estimated by the Ministry of Health, is as follows: At the end of 1955, there were 1,732 physicians (including a few hundred foreign doctors). The aim for 1956 is to have approximately 2,800 doctors as a minimum requirement. The need therefore for the next five years is 1,070 physicians or 200 physicians per year.

4. If we consider the present capacity of the universities in relation to the need for experts in the next five years, it is clear that the universities are incapable of turning out the required number of experts. The policy in this regard is that the priorities for development of higher

education correspond with the priorities in the overall development plan. Special attention should be given to technical education.

For example, it is better to establish one technical college than two or three Law Colleges.

5. Another to overcome this difficulty is to change the curriculums of a number of faculties, so that after fewer years of study an adequate university education can be attained for a diploma recognized for general purposes. In this way the graduates of these colleges can work directly in the production process. For a deeper study to get a higher university degree, an additional period of a few years may be added. This system has been applied in the Technical Faculty and the Faculty of Mathematics and Physics in Bandung.

6. Because of little appreciation in the Government for university graduates, most of them have left Government service for private industry appointments. Hence the lack of technicians in Government will not quickly be overcome. It is therefore necessary to require university graduates to work for the Government for a number of years as is now the case with the graduates of the medical schools. This compulsory service will produce good results only if and when the university graduates are given special pay as technicians, for a reasonable living.

7. As the number of instructors for higher education is insufficient, for the time being foreign instructors are engaged. Until the end of 1955 about 1500 Indonesian and about 270 foreign instructors gave lectures at the various universities and colleges. To overcome the immediate shortage of foreign instructors, affiliation programmes with universities in foreign countries are recommended rather than individual private contracts, as affiliation programmes guarantee the quality and qualifications of the foreign instructors under these programmes. These methods have been applied

by the Faculties of Medicine and Economics in Djakarta and the Technical Faculty in Bandung.

The final objective is to fill the shortage with Indonesians without diminishing the value of co-operation with foreign universities (as exchange of professors for instance). Mobilization and utilization of candidate instructors must be well-planned; therefore, these instructors must be chosen from the best and most talented undergraduates to be used as instructors. They will be sent abroad for further studies. This plan has been carried out by the Economics Faculty.

8. In carrying out the expansion of higher education, foreign assistance is also solicited, especially in matters of equipment and teaching staff. This assistance is sought from any country provided that no harmful strings are attached.

9. Another problem of higher education is the congestion of university students in the first years. The causes are: different methods of teaching in the S.M.A. (Senior High School) and the university; the disproportionate number of S.M.A. schools against the number of universities and colleges, the problem of foreign languages, the need for some students to work their way through college, lecture rooms, equipment, etc. The policy to relieve this congestion is:

(a) To give more information to S.M.A. students to avoid the mistake of following studies inconsistent with their talents.

(b) To give better education in foreign languages in secondary schools and colleges, especially for students desiring to continue their studies in Faculties requiring the knowledge of foreign languages.

(c) To give more guidance and to exercise more supervision especially over first years students.

(d) To provide study books by Indonesian professors themselves and to translate more books from foreign languages.

10. In the interest, furthermore, of the development of higher education, it is essential to speed up the promulgation of the Higher Education Act, which has been under preparation for years. An attempt will be made to get the Act completed at the commencement of the Five-Year Plan. Primary attention must be given to the question of autonomy to universities, because the granting thereof has great influence on the establishment of universities, which until now have been bound too closely by administrative red-tape, especially in matters of finance. With this Act in hand, the universities will be supported by both the Government and the general public.

Another question that calls for attention in the Higher Education Act is the conferring of university degrees. Uniformity should be sought by giving due consideration to the standard of education. Shortening of the period of study has to be considered too, as was stated above.

I. Service scholarships and sending of trainees abroad.

1. Service scholarships

a. The situation up to the end of 1955 with regard to Service scholarships is as follows:

Table V

Service Scholarships granted by the Ministry of Education
(position at the end of 1955)

Type of scholarships	Total service scholarships	Technic Faculty	Agriculture Faculty	Medical Faculty	Economic Faculty	Faculty of Exact Sciences & Physics	Faculty of Law
P.P.15/154	4524	758	355	722	314	152	798
P.P.32/149	2021	213	75	176	262	20	1069
Total	6545	971	430	898	576	172	1867

Sources: Ministry of Education's statistics of 1955.

The value of the scholarship granted to each student is so low that most of the service scholarship students have to work to earn enough to cover their expenses, and this checks the progress of their studies.

b. The policy to be followed in granting scholarships to students is to adjust the grant to the requirements in sectors that have priority of execution in the development plan. Consequently, service scholarships must be given first to students of the Faculties of Agriculture, Medicine and the Technical Faculty and then to students taking other subjects of study.

In order that service scholarship may serve as a stimulus for those who are expected to fill positions of service to the state, a different system is under consideration for the various studies and a system of increase in the amount of scholarships according to the stage of studies. As the amount of the funds allocated for scholarships is not so big, it is necessary that the conditions for granting scholarships be made more stringent, so that scholarships will be limited to those who are really serious with their studies.

Meanwhile, these students should be placed under a more intensive guidance and supervision. Since there are only limited resources for granting service scholarships by the Government, efforts will be made to encourage the participation of private industries in granting scholarships to promising students.

2. Sending of personnel abroad

a. As long as higher education is unable to meet the demand for technicians and as long as there is no education given here on certain subjects for further study and specialization, it will be necessary to continue to send personnel abroad.

b. Personnel are at present sent to foreign countries by the Government and at its full expense, as well as under foreign aid. The present position on this matter is as follows:

The total number of employees sent abroad as trainees as at the end of 1955 is 242, of whom 141 are studying technical subjects, agriculture and medicine. The total number of students sent to foreign countries under foreign aid from 1 January 1950 to 15 January 1956 was 1179, of whom 702 were students for technical schools. Students are sent abroad on either short-term or long-term courses:

(i) Short-term training, which lasts less than two years, is especially intended to increase the knowledge of the students in their particular field of work. Usually, this is intended to upgrade the personnel in the various ministries, so that their personnel improve in quality.

(ii.) Long-term training lasts two years or longer for specialization.

c. The Government policy in sending students abroad is based on need for technical personnel in sectors that have priority of execution in the Five-Year Plan.

Students are sent abroad only for subjects of studies that are not given in Indonesia or that are still at a low level in Indonesia. For special needs, where training is already given in Indonesia, students who have completed their studies in these subjects in Indonesia are sent to foreign countries for specialized training in certain fields.

For the execution of the Development Plan, such as large projects like heavy industry, years of preparation will be needed before training can be

given to the technicians required for these projects. This training can only be obtained abroad in such industries. In cases such as this, sufficient funds must be provided by the Government if there is no foreign aid available for it. More students should be sent under the long-term plan whereby the students will be given training rather than under the short-term plan which is usually intended just to give the trainees a broader view.

In sending trainees abroad under foreign aid, the Government does not just wait for offers from foreign countries, but actively endeavours to get scholarships and followships from any institution or country. Conditions for sending students abroad must ensure that they have the right talents and qualifications (for instance the students must be required to pass one or two examinations first at the universities in Indonesia, etc.). Close supervision over these trainees must be maintained.

I. Mass education

1. Apart from education in schools and training outside schools, mass education is an important factor in creating [illegible] active and mass-participation in the responsibility for Government activities connected with the Five-Year Plan. Mass education covers the illiteracy campaign, general knowledge courses and personnel training, study courses for women, scouts, youths, public libraries, etc. The main problem in mass education is the illiteracy campaign. From 1951 to the end of 1955, 6,823,915 people have graduated from illiteracy campaign courses. The main object of the illiteracy campaign is:

a. To give the ability to read and write in latin letters to people between the ages 13 and 45 within the shortest possible time;
b. To give basic education for the above-mentioned people;
c. To ensure that the knowledge of reading and writing just obtained is maintained and expanded;

d. To stimulate the initiative of people in the illiteracy campaign;

e. To create and expand the supply of educators in rural districts by training illiteracy campaign teachers.

Primary care must be taken that people who have just learned to write and read keep on studying so that they do not become illiterate again. This may be achieved by establishment of public libraries and publication of people's magazines, establishment of village associations for development of knowledge in reading and writing, issuance of announcements, etc.

The illiteracy campaign should be organized more actively in the near future and may be carried out within the framework of the Village Community Development programmes.

2. The execution of the other mass education programmes must also be adapted to the Village Community Development programmes. This will avoid duplication in the Government's efforts.

3. The allocation for Mass Education is Rp 4[illegible] billion for five years. Most of it goes to the illiteracy campaign.

Appendix to chapter 12: Education

REPORT OF THE TECHNICAL EDUCATION SURVEY TEAM

Introduction

The Technical Education Survey Team was sent to Indonesia upon the request of the State Planning Bureau by the Foreign Operations Administration which has now changed its name into the International Co-operation Administration of the United States of America. The mission of the Team was as follows:

"The main object of technical education investigation is to study the educational plan, facilities and teaching methods of the technical schools, other technical-training facilities connected with the needs of the Government, industry, trade, private enterprise, handicrafts and agriculture for trained personnel; and to give the Government suggestions about methods of improvement of the various facilities and their proper utilization for the reconstruction of Indonesia".

With the purpose of getting information material for their report and recommendations, the Team visited various sorts of technical and agricultural education from the lower levels to universities; they also visited vocational and industrial training centers in Java, Sumatra and Sulawesi. Throughout the report, views and recommendations are found to be divided into two types, viz:

1. Recommendations for long-term execution;

2. Recommendations for short-term execution.

There are cases in which the two kinds of recommendations appear to be contradictory to each other, in which case a transitional plan is required. For instance, it is recommended that single-purpose secondary schools be changed into a single series of comprehensive secondary schools.

In addition, the Team recommends a system which facilitates direct reciprocal transfer of students of S.T.I. and S.M.A. and that regional inspectors (of secondary schools) be responsible also for the secondary technical schools. Secondary schools with comprehensive fields of study are recommended for long-term execution, whereas other recommendations are intended for short-term.

CHAPTER A

CLASSICAL EDUCATION AND EDUCATION PROGRAMME

I. Textbooks

In another section the excessive concentration on the lecture method is discussed. It is highly probable that under this method there is shortage of textbooks, because they are too scarce and are too little used. Preparation of written lecture materials appears often to be duplicated because they are also being prepared by lecturers in other regions. Therefore, it is recommended:

1. that a central clearing house be established for the purpose of analyzing textbook requirements and to encourage instructors to translate from existing textbooks or to write new books. One of the secondary functions of this clearing house will be to co-ordinate the work of all translators and writers to prevent over-production in some fields and scarcity in others.
2. that where textbooks in foreign languages are used, the use of English language textbooks only should be recommended, since English has become the second official language in this country. The use of multiple languages in schools as is the case at present in several schools should be eliminated. For example, a certain Teachers Training School makes the study of German compulsory, because the physics textbook used is in German.
3. that the ministries concerned should take the necessary measures to facilitate the acquisition of books, especially imported books. These books should be put in libraries or used by instructors and students.
4. that the contents of the present textbooks must be examined to eliminate or revise duplication in other subjects of study.

II. Lecture method

The common method of teaching applied in Indonesia is the lecture method. This method requires the lecturers to talk a great deal. Demonstrations should be increased in lessons where the students watch the instructors performing some work and later do it themselves. Furthermore, participation of students should be increased by means of discussion and technical appliances in solving problems.

It is recommended that a special conference on methods of teaching be held in order that all instructors get the benefit thereof.

III. Exploitation of students

All educational efforts should be directed towards the main objective of giving the students knowledge and skill. The atmosphere of education should be the atmosphere of study. It may be proposed that:

1. Production work be eliminated at the S.T.P. (Lower secondary technical school), such as making chairs, tables, etc.
2. Production work in the S.T.M. (upper technical school) and the S.G.T.P. (Teachers College) be made a study subject, where the student is given the opportunity to concentrate on a certain job from the planning to the completion. Here too repeated production should be eliminated. For example, if after studying the main work problem the student is required to do the same work over and over again, he will learn very little.

IV. Relative value of buildings, equipment and teaching staff

Emphasis should be laid on the training of teachers because instructors are far more important than equipment and buildings. The order of importance is as follows:

1. Instructors
2. Appliances and equipment
3. Buildings

In Indonesia, this order does not apply. Further, information collected by the Team reveals lack of high quality instructors. Therefore, it is recommended:

1. The teaching emphasis should be laid on the training of teachers; this is a pressing need.
2. If schools may be considered as consisting of three parts, namely teachers, equipment and buildings, the order of importance and use in education should be as above.

CHAPTER B

TEACHERS

I. Teachers' salaries

The Team has not found any place in Indonesia which has a competent teaching staff of sufficient size and there are very few indications that this situation can be improved within a short time under the present system. The main reason is the low salary of teachers and it is therefore recommended that this salary be increased.

II. Teacher training

In general, schools for teachers do not meet with the requirements and need improvement. Too many teacher training schools are merely a kind of an institution for repetion and extension of lessons in other schools. A teacher does not just need to have more education than the students. A teacher must know what needs to be known by the pupils, as well as the most effective methods of imparting that knowledge.

Therefore it is recommended that foreign experts in teacher training should be obtained through foreign aid; this should get top priority.

III. To improve qualifications of teachers

One method of maintaining the present corps of teachers is to give them opportunities to improve their qualifications for better positions and better salaries. Towards this objective, it is recommended:

1. to prepare an up-grading plan to give the teachers an opportunity to improve their education, increase their salaries and prepare themselves for higher positions;
2. to consider expansion of "on-the-job" and up-grading programmes as a means that will probably relieve the shortage of teachers.

IV. Teachers organization

It is recommended that teachers associations be established and/or widened with the object of developing the technique of teaching. Assistance should be given for the establishment of these organizations.

CHAPTER C

PHILOSOPHY OF EDUCATION AND EDUCATION PROGRAMMES

I. Parallel-track system

In carrying out its duties, the team has continuously met with the factor of tradition, especially traditions inherited from the Dutch and other foreigners. In approaching the problem of technical education in relation to the present and future needs of Indonesia, those who are responsible for education in this country should not be influenced by tradition.

Because of the strong Dutch tradition here, Indonesia has inherited the continental system of education known as the parallel-track system. For example, the lines S.M.P.-S.M.A.-University and the S.T.L. series operate in several distinct technical fields. As parallel tracks will not meet, students accepted in one school will face difficulties in moving to the other type of school.

This system creates homogenous economic and social groups rather than homogenous interest and ability groups. In the parallel-track system or serial education system, the students have to make a selection at the time they finish their study in the sixth grade. The children of that age are still too young to make a long-term choice based on careful consideration.

Fundamentally, this system is not democratic. It is essential in any system of education to give opportunities for students to investigate other vocational fields which will eventually be created and to make it possible for them to switch over to another subject, giving them the least loss of time and effort. In the present parallel-track system, this is not possible. Therefore, it is briefly recommended:

1. To review the present system so as to enable easy transfer of students from one type of institution to another;

   This means that the principal subjects found in all schools should be considered fundamentally as parallel, so that any student wishing to move to another kind of school is considered as having completed the same studies. This means that he is only obliged to follow lessons that he has never had before.

2. Graduates of S.T.M. (secondary technical schools) and similar institutions should be permitted to join universities on the same conditions as graduates of S.M.A. schools (Senior High Schools).

3. An improved guidance service system, which is discussed in another section of this report.

II. <u>Consolidation of educational efforts</u>

The discussion of this problem will follow two trains of thought.

(1) establishment of comprehensive secondary schools;

(2) incorporation and consolidation of small schools into greater and more efficient units.

(1) In some sections of this report, it has been stated that Indonesia has many narrowly-planned single-purpose institutions: S.M.A. for university; S.T.M. for work in technical fields. As has been mentioned before, many of these institutions operate inefficiently because of their narrowness. It only stands to reason that Indonesia should adopt long-term plan for the incorporation of these special units into a comprehensive secondary school. There are three advantages in this:

1. An advantage in its execution, in an economic as well as educational sense. Essentially, the key subjects are the same for all schools. In each of these comprehensive secondary schools there will be departments that give lessons in special scientific subjects (technical science, commercial science, etc.), where students wishing to acquire these skills may follow them as at present.
2. This system will produce more democratic schools. The stratified system of education applied at present will widen rather than narrow down the present social gaps. In the other hand, comprehensive secondary schools expand democracy by placing students of different social standings and groups in one school and even in one class for the principal subjects.
3. Since the schools will be enlarged, opportunities will be opened for students to follow a more extensive study if their finances permit, for example by opening a class for oil painting.

(2) As large units are usually preferred to small ones, efforts have been made, in some countries, to incorporate smaller schools into a large unit in a central place. Similar activities should be considered if there is cheap and easy transportation of school children, instead of maintaining large numbers of small schools spread out in various

localities. This incorporation may be carried out especially with elementary schools. Two aspects of incorporation should be studied:

1. Development of single-purpose secondary schools with comprehensive study programmes;
2. Incorporations of small schools of the same type into centrally-located institutions.

III. Selection of university students and reduction of numbers

The Indonesian Government is promoting democratic measures, but there are cases in which its attitude may be misused, as in the acceptance of students. Statistics reveal clearly a surprising speed in the decline of the number of students, which cannot be accounted for by reasons of economy. Wasting of manpower is more dangerous than wasting of money. Here again, it is clear that the parallel-track system is causing, at least a part, the decline in the number of university students. It is therefore recommended:

1. Entrance requirements should be fixed for various universities to consist of:
   a. general entrance requirements for universities such as school grades, average final examination grades and recommendations of Principals of schools, etc.
   b. special requirements for special faculties, such as mathematics and physics for Technical College.
2. These entrance requirements should be applied to all students graduating from S.M.A., as well as S.T.M., S.P.M.A. (senior agricultural high school), etc.
3. Criteria for entrance requirements for universities should be established jointly by the universities with representatives of secondary schools in order to create a better co-ordination between the two groups.

4. The causes of failure of students in university examinations should be investigated. The results of these investigations may be used in future to bring about improvements.

IV. Advice and guidance

Methods of giving advice and guidance in education are rarely to be found. The need for educational advice for students on subjects of study and personal advice for students in their adolescent years made it necessary to include these subjects in the educational system. It is recommended:

1. As a long-term plan, to establish institutions for advice and guidance in secondary schools.
2. Lessons in the technique of giving advice and guidance in the curriculum of Teachers' Colleges.
3. To expand development activities of the Psychological Institutes.

V. Duplication in the field of education.

Duplication in educational activities is generally undesirable because this waste of money, space and administrative energies can actually be put to better use under other conditions. Duplication in educational work is even found in Indonesia in various forms.

The main question is whether a number of small institutions are preferred to a single large institution. It has become generally accepted that there should be minimum a institutional standard respecting the number of students below which it is not wise to operate that institute. On the other hand, it is not wise to establish too large an institution.

In other countries, the minimum and maximum limits have been fixed at 300 and 2,000 students respectively, but the figures for Indonesia might be different. The determining factors for this problem are geography and society.

One form of duplication, for example, is the work carried out by the Ministries of Education and of Labour, both of which have an interest in conducting vocational and technical teachers training. In reality, the one institution can be used by the other, for both purposes. To reduce this duplication, it is recommended:

1. All kinds of education of unique character, due either to the special education rendered or to the special entrance requirements demanded, be placed under the Ministry of Education.
2. It is essential that all teacher training be placed under the Ministry of Education.
3. Special schools such as the Railway School and the Telecommunication School should remain under the control of their respective ministries, but all principal subjects of instruction should be transferred, such as mathematics, physics and English language; if necessary, entrance requirements should be revised. These schools could then concentrate on the special courses that are really intended for these schools.

VI. Incorrect curriculum

In preparing a curriculum, the requirement of the students and the society must be taken into account.

(a) If a curriculum is to provide the need of the students, it is necessary first to know what the needs are. That the present curriculum is unsufficiently effective is evident from the high "death" rate among university students and from preparations for other vocations.

(b) The needs of the society must also be given due attention. School curriculums must reflect the way of life of the society in order to avoid mistakes, for example, shipbuilding training in regions where no ships are built.

Therefore, it is recommended:

1. Every curriculum should be examined to find out whether or not it meets with the needs of a society. Effective adjustment should be effected.
2. As soon as all the current investigations regarding employment and unemployment have been completed and approved by the Ministry of Labour, the results of such investigations should be used as a yardstick for evaluating the existing curriculums or for preparing new curriculums.
3. Every curriculum should be studied to find out the method of applying it to the work concerned.

VII. Lack of training for intermediate jobs

Great lack of "training" for so-called intermediate positions is found in all fields of technical and vocational education. Many people stream to universities. There are only a few places conducting in-between training for production of skilled workers, draftsmen, tool designers, etc. It is therefore recommended that:

1. Universities concentrate on training students to get the bachelor's degree and further education be given only after the requirement for bachelors has been fully provided.
2. In-between grades in education be increased by establishment of junior colleges and extension colleges for additional technical training for technical jobs requiring knowledge higher than that usually given in S.T.M., S.P.M.A. and S.[illegible].I. (Secondary commercial school).

3. Furthermore, all diplomas, grades and institutions referred to above be adapted to a step-by-step system, in which graduates of two-years tool-designing course in an extension college or junior college may continue their studies in colleges to get bachelor's degree and bachelors may continue their studies in universities to get master's degree.

4. Training for intermediate work be given a priority of execution.

VIII. Junior College and University

Plans are being prepared at present for establishment of new universities to complement, expand and supplement the existing systems. This is evidently needed and desired, for there appears to be a great desire to study in various fields of higher education; on the other hand, the existing university buildings suffer an alarming lack of teaching staff and equipment.

The consequence of establishing more universities means a thinner spread of the extremely low number of instructors, which is undesirable from the viewpoints of both education and finance. Meanwhile, it is understandable that many remote provinces wish to have higher education of their own for their people. One acceptable suggestion is to establish a number of junior colleges or Extension Colleges in strategic-geographic points to give a 2-year course after S.M.A. and S.T.M.

On the basis of the above, it is recommended:

1. To postpone the establishment of new universities until the existing faculties of the various universities have at least fully competent teaching staff.

2. To establish Junior Colleges or Extension Colleges in provinces that can prove their actual need for higher educational programmes.

3. The system to be followed in Junior Colleges and Extension Colleges is a parallel-track education system. This is to be expanded as soon as possible to other functions (subjects).

II. Semantic and functional or work standards

In education, Indonesia faces the problem of terminology and standards to a greater extent than other countries. It is therefore recommended that representatives of various fields of study together establish the required definitions for various terms used; also that the Ministry of Education determine what standards are to be used to obtain different kinds of diplomas and grades, so that fundamentally the time required to obtain each kind of diploma will be equal in duration.

I. To test and promote students

Two factors attract attention in testing students:

1. The value given to school grades;

2. Relatively few tests are conducted.

It is remarkable how little attention is given to home work, weekly tests, unit tests and work such as "ratio and proportion", factoring, etc. Under the present system, it is quite possible for a student to have good grades in all lessons without the teacher knowing that the same student actually knows very little.

In discussing school tests, the question of promotion arises. Under the present system the student is either promoted or is left behind on the basis of his overall studies. The policy of promotion subject by subject would be better than the yearly promotion, because it is more [illegible] and definitely more economic.

It is therefore recommended:

1. To advise that all teachers give more school tests and that it be compulsory for all teachers to follow at least one training course on theory and conducting of school tests and standards of tests.
2. To replace the system of yearly promotion on the basis of the respective subjects and to study the recommendations already submitted to the Ministry of Education for their increasing use and application.

II. Need for Education Research Workers

There is a great long-term requirement at each education system for a number of sufficiently educated workers in theory, philosophy and technique of education research for the investigation of educational problems arising and for recommendations as to their solution. At the present time, the required research workers may be obtained from abroad, but it will not be always possible to get them, neither is it desirable. It is therefore suggested that a programme on higher education research be considered seriously, so that it becomes a part of the long-term educational programme.

III. Training within industry

As there is almost no apprenticeship training in the whole of Indonesia, the team therefore recommends that:

1. The Ministry of Education, of Economic Affairs and of Labour, in co-operation with private industry, should promote the development of apprenticeship programmes.
2. Educators in co-operation with trade and industry should encourage the development of co-operative work programmes.

III. Supervisory training

One position which is badly required in Indonesia at present, as viewed from industrial angle, is supervision in all stages. For this purpose it is essential to develop a highly intensive programme known as "Training Within Industry" with three programme constituents, viz:

(1) Job Instruction Training (to train candidate supervisors in the methods of training workers to work fast and well).

(2) Job Relation Training (to stress supervision on good human relations).

(3) Job Methods Training (to train both workers and supervisors to analyse their work in order to eliminate unnecessary details and consequently to economize on materials and time).

The team recommends that the Government agency concerned study the whole supervisory training problem, by using the materials explained above or any material that can be applied here to train a small group of supervisory trainers, who in future will carry out the said training programme in various Government branches and in private industry.

IV. Part-time education for adults

A programme should be developed to give opportunities to adults who have never been to school or those in need of further schooling for advancement and retraining. At present, very little opportunity is given to graduates of S.R.P. (lower Technical School) to attend part-time schools for S.T.M. (secondary Technical School) diploma. The same is also true of graduates of lower middle school for S.M.A. (general secondary school) and S.M.E.A. (secondary commercial school) diploma. In short, to get education in Indonesia, one must be a full-time student because there are no part-time schools.

In this respect the team recommends:

1. Part-time education be provided for adults who have never had the chance of going to school to extend their education and get diplomas up to the highest degree (university diploma). In other words, diplomas should be granted not only for full-time but also for part-time students.
2. Improvement in the co-ordination between the various ministries so that special training courses given under supervision of a Ministry may whenever possible use buildings and personnel of public schools.
3. Extensive adult education programmes be carried out as soon as possible, because all of those following this kind of education programme can immediately apply their learning to their jobs.
4. It would not be necessary yet for every school in Indonesia to maintain an adult education programme. Limitation can be made.
5. Consideration must be given to using national radio system for adult education programmes.
6. A committee should be set up from the educators concerned to study the entire adult education programme and to establish a pilot project, preferably in Djakarta, which may be studied and inspected and where necessary supplemented or revised. If this runs smoothly, the programme may be extended to other places.

CHAPTER D

SCHOOL ADMINISTRATION

1. Statistics and education planning

In this matter the team recommends:

1. In view of the unavailability or great lack of reliable statistics, educational planning be limited to the basic fields, because an extensive and over-comprehensive plan might not fit because of unsuitable school buildings and curriculums.
2. That Government agencies responsible for collection and reporting statistics be assisted whenever possible in collecting all available reliable statistical information.

Financial policy

Establishment of the educational system is an important matter and be based on sound financial policy. This means that a realistic ination must therefore be submitted and used as a firm basis. It eroforo suggested that a sound and actually acceptable calculation dure be followed for the entire education system in Indonesia.

Government contracts with students

The team appreciates the Government's reasons for granting subsidies dents to encourage and to prepare them for Government service. the available information it cannot be proved whether the granting subsidy has attained its objective or not. But the team is ively of the opinion that the method of granting the subsidy is ctive and expensive. In the opinion of the team, the attitude of udent toward the education followed is harmed by the subsidy because the impression that "the tax-payers are obliged to feed him". It is therefore recommended that all contracts of this kind be d and cancelled as soon as possible.

IV. Equipment acquisition methods and distribution

Many schools in Indonesia are short of equipment intended for education, because:

a) The equipment is really employed only for production and not for education;

b) Much of the equipment is not used, either because the schools are not yet acquainted with its use or for lack of electricity, etc.

c) Disproportionate distribution of the equipment.

Evidently, an accurate re-inventorying of the equipment is necessary, and on the basis of it the equipment may be redistributed according to actual requirements for educational purposes.

The following recommendations are therefore made:

1. To complete inspection of all equipment as soon as possible.
2. To appoint a competent technical expert for distribution of the equipment.
3. To report to the various institutions granting foreign aid on the measures taken.

V. Inspection of technical schools

Assignment of one technical education inspector for each region is endorsed, but it is strange to note that these inspectors have no authority over S.T.M. (secondary technical school). It is therefore suggested that each Regional Inspector of Technical Schools have responsibility for and authority over S.T.M. schools as is the case at present with S.T.P. (lower technical schools). If necessary, in order that said inspectors may carry out their assignment better, they may improve their qualifications. Concentration of this responsibility will results in better co-ordination and co-operation between the institutions concerned.

. Co-ordination of foreign aid

Indonesia's need of equipment and competent instructors is so great
it is wasteful to duplicate work and equipment granted by various
oreign aid plans to Indonesia. Such duplication does occur in Indonesia
, in fact, there are cases where one scheme comes into conflict with aid
om other sources. For this reason, it is suggested that the various
oreign aid institutions be informed about applications submitted by other
rious sources for foreign aid in order that the Government of Indonesia
y receive the most effective aid possible from available sources from and
rough various foreign aids institutions.

CHAPTER I

BUILDINGS

. The right to facilities

It is suggested that the State Planning Bureau requests all ministries
report to it regarding places that are needed by a ministry but are used
other ministries, so that if desired the places in question be returned
the rightful owner.

. Housing for students

Great variations have been noted in regard to the buildings, bedrooms
d dining-rooms of various boarding schools. Many other schools have no
stels and/or dining-rooms attractive enough to encourage students to
rd work. It is suggested that students hostels and dining-rooms be
proved and students must be required to do more household work and some
their own work.

. School buildings sufficient

Relatively, Indonesia is not suffering at present from shortage of
ool houses. The lack felt here is due rather to insufficient utilization
available rooms.

Therefore the team recommends:

1. To increase the number of students per class to 25 or 30 for academic classes and from 20-25 for workshop or laboratory classes in agreement with the regulations in force.
2. To improve the present lighting system because most schools are inadequately lighted.
3. It is better to investigate expansion of regional electric power generation rather than buy electric generators for each school separately.
4. To review the present system of inventorying classes to find ways and methods of using the school buildings more effectively.

Disproportionate buildings

An educational institution of any kind must have the following to forge its duties:

1. trained instructors
2. adequate equipment
3. suitable housing.

These constituents must be provided in the above order. In Indonesia, great emphasis is laid on construction of school buildings, forgetting importance of teaching staff and equipment. It is therefore recommended:

1. To review and investigate the entire school building construction programmes, especially university buildings, to find out whether the funds used are expended in a practical and efficient manner.
2. To spend the available funds in the most useful order and to cover the requirements as follow:

a) for teachers

b) for equipment

c) for building

There is great lack of laboratory equipment for use by chemistry, physics and basic science students. The available laboratory equipment is for demonstration purposes only used by the instructors and is insufficient for practice by the students themselves.

It is recommended that all schools from secondary schools up be provided with physics laboratories for practice by physics students.

CHAPTER F

AGRICULTURE

I. Background

To ensure that fertile land of Indonesia continues until the end of time to give optimum production, it is necessary that the greatest care is taken. This is only possible if there is sufficient number of available agriculturists with university, secondary school and lower eduction.

II. Location of agricultural schools and their staffs

Three agricultural faculties have been established, one in Bogor, one in Jogjakarta and the other in Pajakumbuh. The Pajakumbuh College is housed in temporaty buildings, owns no land for its gardens and has only two instructors with 21 students. Lack of instructors is the most pressing problem in agricultural schools and colleges. Apparently there is no possibility to provide these schools with trained instructors in sufficient numbers within a short time. This is not to mention the difficulties of providing funds to pay foreign instructors.

It is therefore wise if the Bogor Faculty is first improved. The Jogjakarta Faculty might continue with the present strength of its faculty staff, plus the assistance of a few part-time professors from Bogor. It is better to postpone development of the Pajakumbuh Faculty for the time being. Both the students and the instructors should be transferred to Bogor.

Some faculties need additional laboratory equipment and all of them need more text and reference books.

III. Bachelor's degree

In this connexion, the team recommends Agricultural Faculties to confer bachelor's degree. This may be obtained in four years; in this way, time is saved both by the colleges and students alike. In practice all assignments in the Ministry of Agriculture requiring personnel with higher education can be handled by holders of bachelor's degrees.

IV. Secondary agricultural schools

Most of the secondary agricultural schools have adequate equipment; and the impression is that the schools are not used to full capacity because of lack of instructors. The team recommends that construction of agricultural school buildings be postponed until more competent instructors are available, not only for the present schools but also for others to be established.

V. Information and research

Research and information should be co-ordinated and become inseparable parts of the Agricultural College.

1. Organization

To give more attention to the rural population, it is recommended that the organization of agricultural colleges be as follows:

a) They should be headed by an administrator or dean with thorough and comprehensive agricultural science education.

b) He may possibly be assisted by three assistants as chiefs of the Education, Research and Information Sections.

This kind of organization incorporating school work, research work and information service under single administration has proved to be exceedingly effective.

2. Agricultural institutes

Agricultural institues are not only to conduct agricultural research for the whole country but must also follow agricultural developments in other countries and supply information concerning there developments to other Government agencies.

VI. Agricultural Information Service

The Indonesian Government is considering application of the Indian Village Community Development system. This is a very good step. It would be best if agricultural mantoris were given additional agriculture training for additional assignments as village workers in the Village Community Development Plan.

It is recommended:

1. To defer expansion fo the agricultural College in Bajakumbuh for the time being.
2. To include in the curriculums of agricultural college teachers training subjects and methods of giving information.
3. Agricultural colleges to give four-years course for bachelor's degree.
4. To limit the granting of master's degree by the Bogor Agricultural Faculty.
5. To postpone construction of new S.P. .A. (secondary agricultural schools) for the time being until a sufficient number of instructors is available.
6. To consider the incorporation in Agricultural College of education, agricultural research and agricultural information under single administrative supervision.

7. To continue efforts to get men with university education for senior positions in the Ministry of Agriculture.

8. To carry out, if accepted, Village Community Development Plan by the Agricultural Extension (Information) Service.

CHAPTER 13

H E A L T H

A. Introduction

The Health Organization fell into confusion during the Japanese occupation and the following period of the revolution. Disease control campaigns against malaria, T.B., yaws stopped and many hospitals and clinics were left uncared for or destroyed. As a consequence, the health situation became bad, due to lack of physicians and medicines, while training of new physicians was not running smoothly.

B. Condition of Public Health

There are no reliable statistics available to get a real view of the public health situation. The following are merely estimates of the death rate (as compared with Indian death rate figures).

	Death rate	Infant mortality rate	Maternity mortality rate
1. Indonesia (1951)	22 o/oo	115-300 o/oo	12 - 16 o/oo
India (1951)	16.5 o/oo	127 o/oo	-
2. Indonesia (1951)	11.8 o/oo	97 o/oo	4 o/oo

Source: Ministry of Health

Although there are not statistics available, it is known that the numbers of people suffering from such contagious diseases as cholera, typhus and dysentery are high.

Until World War II there seemed to be practically no smallpox in Indonesia as a result of vaccination and revaccination. But in 1947 the disease spread into Sumatra (from Malaya) and farther to Java and now to Kalimantan and Sulawesi. Plague as an epidemic has not been brought under complete control because some sources cannot as yet be destroyed.

Apart from this contagious disease, Indonesia is also afflicted with many other endemic diseases such as T.B., yaws, leprosy, trachoma and venereal diseases. The most dangerous is malaria because it is to be found in extensive areas and its mortality and morbidity rates are high. The estimted mortality rate is 1.3 - 1.5 o/oo and estimated morbidity is 40 % (mortality rate in chronic/epidemic areas may be as high as 400 %).

The mortality rate for T.B. is estimted at 189 per 100,000 people with an estimated 0.75 to 1 million open cases. Another endemic disease is yaws. It is estimted that 15 o/oo of the entire population is infected with this disease; 6% of this is contagious and 75 % of the cases with contagious disease are children under 18 years of age. The estimted number of lepers is 70,000. Trachoma is still prevalent on the coastal areas where sanitation is still extremely poor. No accurate figures are available on venereal disease: estimtes are that the frequency was higher after World War II.

C. Treatment facilities

The opportunities for treatment are not high because the total capacity of general and special hospitals is only 63,000 beds, a ratio therefore of only 0.8 o/oo. Only 21,940 of these bedes are in special hospitals, a very small number compared with the large numbers of patients.

Number of public and private hospitals
(as at end of 1955)

	Public		Private but run by the Government		Private		Total	
	Number	capacity	Number	Capacity	Number	Capacity	Number	Capacity
General hospi-								
tals	299	22,306	113	11,000	112	14,157	524	47,543
ria	39	3,042	10	1,742	1	250	50	5,034
Hospitals ..	25	6,978	-	-	-	-	25	6,978
Hospitals	12	359	7	128	27	736	46	1,223
tals	1	200	-	-	3	458	4	658
tals	8	770	4	435	2	235	14	1,440

of table):

.....	385	33,655	134	13,385	145	15,836	644	62,876
.....	203	21,943	-	-	467	38,671	610	60,614

Source: Ministry of Health

The difficulties of treatment are the more felt because most physicians and midwives stay in towns and transportation is not available. For more widespread medical service, the primary requirement is efficient transportation.

4. Public Health Policy

Urgency-public-health programmes have been drawn up, consisting of articles:

1. a) Control of contagious diseases (typhus, dysentery, cholera) to be conducted systematically as before the war; full attention is also to be given to the control of plagues; improvements are to be attempted in regard to people's housing, where required.

   b) Systematic curative and preventive control of endemic diseases. With the help of UNICEF, yaws control campaigns are to be extended in Central and East Java and to be carried on effectively in other areas. Preparations are being made for the control of venereal diseases in Surabaya, Ror T.B.C., B.C.G. vaccination is prepared in Bandung. Modern control of leprosy with an emphasis on social care of the patients. Full attention is being given to the control of malaria with the help of WHO.

2. Attention is paid to education of the people in health and sanitation.

3. There is a great need for expansion of capacity by expansion of existing hospitals or construction of new ones. The same also applies to clinics. It is planned to build hospitals in Kebajoran, Bandung Regency, Subang, Palembang and to expand the Tjibadak hospital (Bandung) and others in Bukittinggi, Surabaya and Semarang. An experiment will also be conducted on the use of mobile and sailing clinics.

4. Training of physicians and medical assistants.
5. Efforts to enlarge medical supplies and equipment stocks by increasing imports. Consideration is being given to construction of new medical depots and pharmaceutical factories.
6. To continue research work in Institutes and Scientific Institutions.
7. To start with social hygiene, among other things, industrial hygiene.
8. With the help of WHO and UNICEF to carry out mother and child health programmes.
9. Establishment of a Rural Public Health Service Programme commencing with the "Bandung Plan", i.e. integration programmes for curative and preventive measures in the villages.
10. Efforts for the improvement of people's food in co-operation with FAO.
11. To maintain co-operation with international institutions, WHO, UNICEF, FAO, ICA. Reference must be made here to the Government's Public Health Work Programme established in 1951, because it is considered a basis for the public health policy of the Ministry of Health in the coming years. This programme incorporates efforts to raise the curative treatment level by expansion and construction of new hospitals and clinics.

Preventive control efforts are being continued as before the war for the control of cholera, typhus, plague, etc. But great expansion programmes are to be carried out for the control of endemic diseases - malaria, yaws, hookworm, T.B. - with the help of international institutions. The objective is to check endemic diseases within a short time. Other plans that call for attention are expansion of curative and preventive treatment programmes in the villages. For this purpose, there is what is called the "Bandung Plan", an experiment in integrating curative and preventive efforts.

Provisional results

Although the steps taken are still inadequate, there has been some progress in the work.

a. No dangerous spread of epidemic diseases occurred in 1954. Smallpox, typhus, T.B. and dysentery were reported incidentally. Plague, which took some 2 to 3,000 victims in 1950 and 1951, dropped to a very low level of only 119 in 1954. Plague areas were also narrowed down to a far smaller area than in 1950/1951.

b. The campaign for controlling endemic diseases is progressing fast.

- The anti-yaws campaign was launched in 1950, with the assistance of WHO and UNICEF in the Djogja and Djakarta areas; this has now developed into a general anti-yaws campaign. In 1954 a region with over 15,000,000 population was examined and 2,000,000 yaws patients were treated.
- B.C.G. vaccination for the control of T.B. started with WHO and UNICEF's aid in Bandung. Up to the end of 1954 over 2 million people were examined.
- Malaria control with DDT spray shows progress (in the Metro, Tjibon and Tjilatjap areas).
- Systematic control of venereal disease is carried on by the Central Institute for the Control of Venereal Disease in Surabaja as a center for investigation, control and education on venereal disease.
- Control of leprosy is expanded by establishment of a large Leprosy Hospital in Tangerang. Epidemiological researches are started in Watas (Krawang).
- Trachoma is combatted with the help of WHO and UNICEF in Java and Sumatra.

c. Great progress has been achieved in mother and child welfare with the help of UNICEF and WHO; efforts in these fields have been expanded, so that at the end of 1954 there were 1,100 mother and child welfare clinics in operation.

d. The total capacity of the hospitals in the whole of Indonesia, at the end of 1954, was 63,080 beds.

e. The total number of clinics at the end of 1954 was 3,153 including 2,908 Government-owned.

f. With the establishment of orthopaedic and prosthesis institutes, attention could be given to the problem of rehabilitation of disabled persons.

g. The number of medical assistants increased greatly as shown in the following table.

Medical personnel	Total	Public
Physicians	1,504	896
Dental surgeons	260	144
Pharmaceutists	108	4
Assistant druggists	1,174	232
Midwives	1,838	835
Dressers	727	570
Nurses	6,000	5,500
Analysts	64	55
Dietitians	14	14
Other medical assistants	3,200	-

Source: Ministry of Health (1954)

F. <u>The Five-Year Plan</u>

The principal items of the Public Health Five-Year Plan are as follows:

1. Treatment programmes (hospitals, clinics and expansion of the Bandung Plan).

2. Endemic Disease Control Programme.

3. Epidemic Disease Control Programme.

4. Rural Public Health Programme.

5. School Health Programme.

6. Education programme.

7. Laboratory research programme.

8. Other programmes.

In the Five-Year Plan an appropriation amounting to Rp 250 million has provided for the execution of these health programmes which cover a term period. Personnel salary and expenses and other routine expenditures ncluded in the Ordinary Budget.

1. Treatment programme

This programme consists of:

a. Construction and expansion of hospitals.

b. Increasing the number of clinics for light cases.

c. Expansion of the Bandung Plan.

three items of the programme may be considered as a curative and ntive unit. The construction and expansion of the hospital programme at raising the ratio of hospital beds: population which is now approximately ,000. The original intention of rising the ratio to 1 o/oo appears to o high-standard because of the large expenditures involved, so that it was ded to reduce it to 0.9 o/oo.

If the total population in the beginning of 1960 will be approximately million (with an increase of population of 1.7 million per year), the l number of hospital beds should be 80,820 requiring thus an increase of 20 - 63,080 = 17,740 beds. This figure may be broken down as follows:

Public hospitals	50%	8,870 beds
Mental hospitals	4%	710 "
T.B. hospitals	10%	1,774 "
Leprosaria	4%	710 "
Eye hospitals	4%	710 "
Venereal Disease hospitals	4%	710 "
Infants and children's hospitals	10%	1,774 "
Chronic patients hospitals	4%	710 "
Maternity hospitals	10%	1,774 "

In addition to the expansion programme for treatment facilities, it was urgently necessary to increase the number of clinics in 1954, which numbered 3,153, and to get an addition of 1,400 clinics over a five-year period. It has been found from practice that the establishment of clinics is easier if carried out by the regional governments.

Finally, the expansion of the Bandung Plan, which complements this programme, with preventive measures. This plan incorporates the preventive and curative efforts of the Central Government and regional Governments, in co-operation with the local population. This is of great importance because this operation, especially the preventive measures, will not be successful without the help of the people (see chapter on Village Community Development).

The regency or territories of the same level are taken as a basis, where hospitals can be expanded to become Central Hospitals. Originally, it was planned to set up three Health Centers and two auxiliary hospitals in three "experimental" Regencies with 15 and 40 beds respectively: the health centers to be established in the sub-district capital for curative and preventive treatment and auxiliary hospitals for light patients. The preventive measures of the health centers are expanded to rural districts by establishment of a village sanitation service, examination of pregnant women, children and also village consultation bureaus for light treatment. In practice, however, these health centers have to be limited - as is also the case with hospitals - thus, instead of three health centers and two auxiliary hospitals, 1 health center and 1 auxiliary hospital only are to be set up.

The expansion programme for the Bandung Plan covers 12 regencies (scattered all over Indonesia). It is hoped to increase the number of beds by 660. The execution of this Plan should be within the framework of the Village Community Development Plan.

2. Endemic Disease Control Programme

Malaria, T.B., yaws, venereal disease, trachoma are prevalent in Indonesia. Malaria, however, is considered the greatest enemy. It is estimated that 30 million Indonesians suffered from malaria in 1951 and 120,000 people died from malaria. T.B., venereal disease, yaws and trachoma also claim many victims.

a. Malaria

This malaria control programme is the continuation and expansion of the Ministry of Health's malaria control programme. Although the programme was launched in 1950, little progress appears to have been made and only about 3 million people have been protected against malaria by DDT house spraying. Several problems are involved, of which the most important is D.D.T. resistance among malaria carrying mosquitoes. To check the spread of immunity among the malarial mosquitoes to other regions, a large-scale malarial control programme is needed as soon as possible by spraying the malaria-infested areas with residual insecticide. Each area is sprayed for at least three consecutive years. The spray used is DDT and where DDT resistance is found among the malaria carriers, the chemical to be used is Dieldrin. After 5 years, large-scale spraying is then stopped and cheap maintenance measures follow.

This programme receives ICA aid in the from of equipment, materials and trained personnel, commencing in 1955 and lasting until 1959. Indonesia pays the current expenses and also expenses for the educational programme of the Malaria Institute.

In view of the rapid scientific developments lately, adjustment is needed in the malarial control programme. It is necessary here to consider construction of a DDT factory in Indonesia and the urgency of establishing a malaria laboratory and institution of malaria sanitation must also be suggested.

b. T.B.

Next to malaria, tuberculosis is a major endemic disease. A low estimate of the death-rate from T.B. is about 190 per 100,000 with 750,000 to 1,000,000 open cases. This social disease which is influenced greatly by social-economic conditions and is therefore closely related to the question of living standar.. Generally speaking, T.B. control is both preventive and curative in character. The control programme during the last 20 years has laid emphasis on active preventive measures, consisting of BCG vaccination, establishment of consultation bureaus and mass X-ray campaigns.

The mass prevention programme was started on a large-scale in 1954 with the help of UNICEF and WHO in regard to materials. This programme will be completed in 1960 when about 30,000,000 will have been vaccinated. The main efforts should be concentrated in cities because the density and possibilities of infection are higher in cities than in rural districts. It is also necessary to consider manufacture of our own vaccine in Indonesia.

c. Yaws

In 1954 a start was made with the execution of the yaws control programme with the help of WHO and UNICEF. The plan is to cover an area with 65,000,000 population. The yaws control programme in the Five-Year Plan is a continuation of the above programme which has proved to be progressing rapidly. Yaws is still a dangerous disease and is prevalent

among the poorer classes of the population where the social and sanitation conditions are very bad. With the discovery of peniciline, the control of this disease entered a new stage, as this medicine has proved effective and has produced good results. Further investigations into the method of control of the disease have produced a better method. Consequently, the Ministry of Health has agreed to extend the anti-yaws campaign to the whole of Indonesia.

4. Eye diseases

Among eye diseases, trachoma has inflicted the most damage on the population of this country. The following are trachoma infested are:

Djakarta - Tangerang area
Tjirebon - Semarang area
Surabaja - Gresik area

The infection rate in these areas is from 50-75%. Trachoma in Java is especially common among children. The general infection rate is between 40 to 50%. Eye disease, especially trachoma, has become a public health problem influenced by social-economic and social-hygienic factors. Measures to control eye diseases need the greatest possible expansion and in regard to trachoma the efforts should be concentrated on the control of the disease among children. In principle, the control consists of improving the eye condition in general and combatting trachoma in particular. Training of eye nurses is important because the control of eye diseases must be carried out by special personnel.

The co-ordination and issue of general directives which must be carried out by the Government are to be made by the Eye Department of the Ministry of Health. Nation-wide control of eye diseases will be based on the results of the initial anti-trachoma projects in some areas, such as have been conducted in the Tangerang area.

3. Contagious Disease Control Programme

For the most part, control measures are concentrated on the improvement of quarantine situation in Indonesia. This question becomes a highly import one, because Indonesia maintains a busy traffic with foreign countries. During 8 years of war, damage to sea harbours and airports gave rise to consequences which call for close attention, especially the conditions of quarantine stations.

In this programme, special attention is directed to the main ports of Tandjung Priok, Makassar, Bitung Medan, Surabaja and the airports of Kemajoran, Medan and Surabaja. Other control measures for contagious diseases are at present precautionary in character. During the last few years plague has shown a tendency to decline. But pooling tests are continuously conducted to find out whether certain areas are still infested with rats. If sources of plague are detected, DDT spraying, vaccination and housing improvements are immediately applied on the spot.

4. Rural Public Health Programme

One of the most important items in the Rural Health Programme which can be applied in the framework of the Village Community Development Plan is environmental hygiene which aims at influencing and changing the existing environment of the community towards a healthy living. In fact, this environmental hygiene is inseparable from personal hygiene; each mutually affects the other.

The main efforts in this field, in broad outline, is to get the rural population to carry out the following measures:

a. To provide sufficient clean drinking water and bathing water.

b. To arrange regular disposal of animal and human excreta and debris from houses, yards and roads.

c. To build healthy houses, to increase their number and improve their construction to provide pleasant and healthy households (see chapter

on "Housing").

b. Destruction of small insects such as flies, mosquitoes or bugs, which spread diseases from infected patients to healthy people.

c. To pay attention to sanitation of food and drink.

In general sanitation measures should be carried out by sanitarians with the help of the People's Housing Services and the Veterinary Service.

Since sanitary conditions in Indonesia can still not be gauged statistically, it is necessary to set up pilot projects in several places which may serve as demonstration and teaching centres for the whole of Indonesia. For this purpose, WHO is prepared to help both in personnel and equipment.

The spread of diseases in this country, due to poor sanitary conditions, is also caused by lack of understanding of personal and public hygiene. Health education for the people is therefore an exceedingly important problem. Generally speaking, all efforts in the fields of public health will be unsuccessful, unless the people are given education and information regarding health problems. Health education for the people aims at:

a. creating understanding of the people concerning health problems;

b. stimulating the people to participate actively on the basis of this understanding to attain the aim of better health;

c. reaching level at which the community itself will be responsible for their own health conditions.

In general, the method of health education is applied in two ways viz: oral, written and audi-visual information. Education is directed towards individuals, families, associations and school children. Simple and practical methods, adjusted to the requirements and desires of the population, are the best. Apart from these simple methods, there are also other special methods directed towards certain groups of the population, such as farmers, industrial workers, teachers, etc. Naturally, these efforts can only be carried out by people who are well acquainted with this work.

5. School Health Programme

Pending the application of compulsory education, first steps have been taken as a basis for school health work, which is temporarily being carried out by the Rural Health Department of the Ministry of Health.

6. Education Programme

Because of lack of trained personnel in every vocation and skill, it has been planned to expand the Education Programme for medical personnel so that it can reasonably be expected that there will shortly be a sufficient number of medical personnel available. Therefore, it is necessary to review the problem of education as a whole. In this review there are a few problems that require investigation, viz:

a. the type of personnel, a matter that is related to the work.

b. the system of education, a matter that is related to basic education and the duration of the study; and this includes selection of curriculums and study material.

c. the number of each type of personnel required for the coming year according to a well-defined plan.

CHAPTER 14

SOCIAL WELFARE AND SOCIAL SECURITY

A. SOCIAL WELFARE

Introduction

Gradually it is becoming realized that social welfare programmes can longer be considered as more incidental measures which are exclusively business of private institutions. Originally, it was thought that ple in need of private and government help are limited to the weak and abled, criminals or those with other shortcomings; but it is now evident t the causes leading to the need for this help lie more in the economic tem than in individuals. Strong, healthy and capable people are forced suffer together with the weak. Social welfare therefore now means the ire Government programme to ensure security in economic life, health, lodge and prosperity covering the entire fields of social security, lic education, public health, crime and the suppression of crimes, ldren's welfare, etc.

Fields of social welfare work

To draw a picture of the above-mentioned fields of social welfare work ch partly consists of the execution of different kinds of curative and ventive assistance, the following are some kinds of social work :

a. help for the poor and the neglected.

b. help for the care and rearing of orphans and neglected children.

c. rehabilitation of disabled persons, ex-convicts, delinquent people, etc.

This work covers such efforts as providing housing for the care and otion of the needy; giving help to disabled people requiring assistance ide poor-houses; giving assistance to the families of disabled persons, ing sustenance for those who are confined to institutions; helping ssion nationals arriving from foreign countries and in need of help.

e. help for people who lose their homes and source of living because of catastrophes and terrorism; help for victims of fires, for displaced persons, for victims of beasts of prey.

f. efforts for the civilization of primitive races such as the Kubus, Montawais, Sakais, etc.

g. combatting and preventing such social evils as gambling, usury, agidjon, etc.

h. suppression and prevention of trade in women and children and publication and distribution of obscene books and combattin and prevention of vices (gambling, drinking, opium smoking).

This social work includes care, help and education, control of obscene ...ations, suppression of trade in women and children be required of all ...rs of the United Nations; combatting and prevention of gambling, ...ation and opium smoking.

h. apart from the above-mentioned curative and repressive social measures, social work called "social guidance" of promotive and preventive character is also carried out.

Guidance is effected by means of giving oral, written and audio-visual ...mation, especially concerning social problems to create a sense of social ...sibility and social accountability.

2. The role of the Government

1. All the kinds of social work enumerated above, although considered ...ible, cannot be carried out by the Government alone. For to attain the ...ctive of the Five-Year Plan, i.e. to raise the standard of living of the ...le, the first thing to be done in the present economic situation, is to ...ase capital equipment and skills to such an extent that the income and ...ctivity per capita are increased. In this way, funds for social welfare ...rities can also be increased.

4. In view of this, the best thing would be to make social welfare primarily the duty of the community. In this way, the sense of social responsibility will be cultivated and developed which actually long been present in the Indonesian community.

5. The Government's duty in this case is to guide, encourage, help and supervise social activities among the community in practicing and promoting social security work.

6. The Social Research Institute of the Ministry of Social Affairs especially engaged in the investigations of social welfare problems and the solutions of these problems. Several universities are also conducting research in this field. Expansion and intensification of these investigations will increase the available materials, which will be of particular value to be used in social work among the Indonesian community.

7. This Five-Year Plan provides an appropriation of Rp. 12.5 million intended primarily as investment in social guidance and social research work.

B. SOCIAL SECURITY

Introduction

Basis:

1. Article 36 of the Provisional Constitution defines that it is the duty of the Government to promote social guarantees and social security; special duties in this field are specified further in the said Article.
2. The conception that proper provision of social security is a primary promoting factor for the success of development plans in other fields leads to the conclusion that social security is an integral part of the entire Reconstruction Plan.

The appropriation provided in the Development Plan 1956-1960 for Social Security amounts to Rp. 8.3 million.

The present condition of social security

1. Social security legislation

Legal regulations governing social security are as follows :

a. during the Netherlands-Indies period:

(i) Supplementary Planters Regulation, in force as from 1 July 1938;

(ii) Workmen's Compensation Regulation, in force as from 1 January 1940 as supplemented by the workmen's Compensation Regulation of 1947;

(iii) Sailors Compensation Regulation, in force as from 1 January 1941;

(iv) Government Regulation of 4 February 1933, Book II, Title 4 of the Commercial Law;

(v) Book III, Title 7a, Article 1602, etc. of the Civil Code.

b. After the proclamation of independence, especially after the transfer of sovereignty on 27 December 1949:

(i) Labour Regulation No. 1 of 1951;

(ii) Workmen's Compensation Regulation No. 2 of 1951

(iii) Decision of the Minister of Labour No. 48 of 1952.

Regulations governing unemployment, are :

(i) Decision of the Minister of Labour No. 33 of 1952 concerning unemployment allowances, in force as from 1 July 1952;

(ii) Decision of the Minister No. 34 of 1952 concerning Provision of Emergency work for the unemployed, in force as from 1 June 1952;

(iii) Decision of the Minister No. 35 of 1952 concerning Training Allowance for unemployed;

(iv) Decision of the Minister No. 40 of 1952 concerning vocational training for unemployed.

Reference is also made here to :

(i) Decision of the Minister of Labour No. 81269 of 1951 concerning Capital Loans for work expansion;

(ii) Decision of the Minister of Labour No. 51 of 1952 concerning Assistance for work expansion.

2. Other social works not governed by law

There are employers that :

a. pay wholly or partly wages of their workers who are unable to work because of sickness;

b. pay medical expenses of their workers and, in some cases, also those of their families;

c. pay burial expenses for dead workers.

These allowances are not granted on the basis of any right of the ers thereto. Labour disputes on social security have created various lective agreements which promote the economic stability of the State ause they lead to uniformity and guarantee labour conditions and social vices.

3. Joint efforts of workers and employers

On the recommendation and with the guidance and help of the Ministry Labour, various social services have been set up jointly by workers and loyers, such as :

a. Sick fund for workers, in Bandung;

b. Control Fund for Sick Workers, in Jogjakarta;

c. Kretek Cigarette Workers Social Fund, Kudus;

d. Sick Fund, Medan;

e. Industrial Sick Funds in Surabaja and other places.

As an experiment in this field, these social services are of great value produce valuable experience.

4. Social security for Government workers

Government workers, other than those employed in Government enterprises have a semi-official status and members of the armed forces, are provided various kinds of securities by law, especially old-age pensions, pensions widows and orphans, medical and family allowances. Some of the regulation erning these services are :

a. Law No. 20 of 1952 concerning pensions for civilian Government workers (published in Statute Book No. 74 of 1952, Explanation in supplementary Statute Book No. 305).

b. Government Regulation No. 19 of 1952 concerning pensions for widows and allowances for orphans of civilian Government employees (published in S.B. No. 25 of 1952, Explanation in Sup. S.B. No. 210).

c. Government Regulation No. 15 of 1953 concerning annual leave (published in S.B. No. 26 of 1953, Explanation in Sup. S.B. No. 379) as supplemented by Government Regulation No. 21 of 1953 (published in S.B. No. 33 of 1953, Explanation in Sup. S.B. No. 404).

d. Government Regulation No. 23 of 1955 concerning salary scale for civilian Government workers in Indonesia (published in S.B. No. 48 of 1955, Explanation in Sup. S.B./No. 889) as supplemented by Government Regulation No. 32 of 1955. (Published in S.B./No. 75 of 1955, Explanation in Sup. S.B. 908) and others.

Social security programme

In preparing social security programmes, a distinction must be made between city life and rural district life.

1. Rural communities

In present circumstances, it is impracticable to attempt a social security system for rural communities. What is important is to provide the rural population with medical services which most of rural communities lack. The execution of a programme of this kind is better left to the Ministry of Health, which has a rural public health programme at present being carried out. It is highly recommended that the principle of neighbour-help (gotong-royong) in social welfare be consolidated with the most modern methods without harming the old sound traditions which are the foundation of the gotong-royong system. Examples of these social benefits are :

Establishment of insurance organizations for crops and live-stock, old-age security, help at deaths and allowance for widows and orphans; co-operative associations may play a big role in this.

2. Urban communities

The urban community, with a way of life not much different from people in economically more advanced countries, comprises :

(i) Industrialists, entrepreneurs, professional men and those with free occupations.

(ii) Most of Government workers.

(iii) Large numbers of small businessmen and handicraft workers.

(iv) Large numbers of private workers, among whom large numbers of house servants.

The first group is not included in the plan because people belonging to it have a sufficiently high income, so that part of their huge income may be set

...for medical expenses, accident expenses and for old-age security.

In group 2 are not included Government workers living outside cities. ...all of the Government workers, in cities or rural districts may be ...sidered and so treated as one group only. A remarkable difference is ...e evident at present between Government workers on a monthly basis and ...ernment workers on a daily basis. Salary scales and social services ...e not the same for the two groups.

The salary and social security for the Government workers on the monthly ...is are provided by law, such as child allowances, old-age pensions, ...dical allowances, etc. Practically, the social security for this group ...the most properly arranged, although it is not yet very satisfactory. ...provements can still be effected within a short period, among other things, ...the matter of medical care and treatment, child allowance, travelling ...penses, etc.

Social services for the Government's daily workers are not provided as ...ey should. It is hoped that within these few years, foundations can be ...id for social security for Government daily workers. In the first place, ...e Personnel Affairs Office must conduct as complete a registration as ...ssible of all Government workers on monthly and daily basis. This ...gistration will be used as an information for social security improvement ...ogrammes in future.

Although efforts are being made in this direction, it must not be ...rgotten that we are gradually aiming at a general social security system ...r both Government workers on a daily and monthly basis as well as for ...rkers in the private business, in which system everybody gets the same ...nd of treatment. If there is one single social security department for ...e administration of Both Government and private sectors, the spread of ...alified social security personnel can be prevented.

As regards group 3, the question arises whether the social services this group too are not the responsibility of the Government and they example may voluntarily participate in some social service funds in r to be entitled also to sick funds, old-age pensions, allowance for ss and orphans.

For group 4, their risks may be covered in the following manner under sideration of the present requirements and possibilities :

a. Unemployment

In view of the fact that the labour market organization is not yet sufficiently advanced, it seems that the time has not yet come to institute unemployment security. For the time being, efforts in this field must be limited to expanding efforts under the existing system for improved vocational training for unemployed and to solving as soon as possible the problem of shortage of trained personnel.

b. Accidents at and due to work and sickness resulting from work

Indemity for accidents at and/or because of work and illness caused by work must be charged to social instutions established by the Government. After two or three years the conversion of the voluntary participation of private industries in accordance with the existing regulations into compulsory participation in social service funds may be considered.

Meanwhile, anomalies and shortcomings in the existing regulations must be eliminated as soon as possible. Apart from that the application of those regulations must be extended to all employers with at least one worker in his service, including house servants. But this is only possible if these risks are covered by one system of social insurance. Premiums are fixed in accordance with the risks for each type of industry.

ces for incapacitated people must be the same as allowances
ed for the sick, pregnant women and maternity women and disabled

Pregnant women and child's delivery

the duties imposed by law on employers for women in pregnancy and
childbirth must be included in the social service allowance. The
ance should be the same as allowances granted for the sick workers,
the present period of leave with full pay of 6 weeks before and
eks after delivery may be maintained.

Menstruation

In future system there will be no place for the present legal
lation concerning leaving work because of menstruation and receiving
l pay for it. Compensation is only paid in the form of sick allowance
only on the presentation of medical certificate regarding the illness.
present regulations will possibly induce many an employer to engage
women; consequently the women themselves will fall victims of the
ulations introduced in their name.

Old-age, widow and orphans allowance

Old-age security on the basis of life insurance policy can only be
fected after some years because of lack of statistics on life
pectations in this country. It is recommended to provide temporarily
r old people through a savings system. The amount of retirement fund,
dependent of the quantity of wages, will increase in accordance with
increasing share of the retirement fund paid by the workers. Workers
ving their jobs but who have not yet paid the minimum total of their
tirement fund contribution will receive the contributed amounts back
thout interest. If a worker dies, his widow will receive monthly
sion from the contributions made by her deceased husband. The
rnment will only participate in paying pensions to orphans.

Illness, medical treatment

Any improvement in medical care must also be extended to medical care the families of workers. The great lack physicians and medical ipment call for rational and joint use of the available facilities such public and private hospitals, clinics, dispensaries, etc. for early provement of the present condition. Any health measures within the mework of the social service programme is co-ordinated as far as sible with the general policy of the Ministry of Health.

Reorganization of health facilities is effected gradually on the is of an over-all regional programme after investigating all factors close co-operation with all the parties involved, such as industrialists, rkers, physicians, public medical services, etc. Hospital treatment uld better be given in Government clinics, hospitals and maternity spitals, for which arrangement should be made at cheaper rates. It must seriously endeavoured so that the assistance is given with the maximum fficiency at minimum costs, without any limit as long as the worker meets th the requirements of the assistance.

Sick allowances

The problem of money allowances is a separate question, because there e employers who pay their workers fully when they are sick, for different eriods. Such money allowances need to be included in the social service rogramme in order that such allowance be granted to all workers, so that yment is guaranteed and the conditions for payment standardized.

Disabled persons

At the present time no demand can be made to grant allowances to isabled persons for a period longer than six months, because experience granting this allowance will only be obtained after many years, in hich data are collected for a basis of establishing a permanent security m for disabled persons. As far as possible allowances should be equal

for persons disabled by accidents or illness because of or at work and for those resulting from accidents and illness not because of or at work.

4. Death

Burial allowance should be granted at the time of death of the persons entitled to burial allowance. In future, this allowance may be increased up to 30 days wage and some allowance for dead members of workers family may be considered.

5. Administrative structure

The execution of this whole programme must be entrusted to an autonomous corporation with executive authority and with close co-operation with the various Government agencies concerned under close supervision of the Ministry of Labour. This institution should have a Board of Management.

The advisory board of this institution should consist of representative of employers and workers and the Ministries concerned, such as the Ministry of Labour, the Ministry of Health, the Ministry of Social Affairs and possibly the Ministry of Finance. Problems reviewed by advisory committees consisting of experts which submit recommendations to the administrative committee.

A directorate is to be established in each province with local branches for the purpose of maintaining close connections with the persons insured and their employers. Full authority should be conferred on the Central Board for improvement of health facilities throughout the country.

Gradual execution of the programme

In view of the fact that no trained administrative personnel are available and there is a great lack of health personnel, training courses must first be held for the personnel that are required for the execution of the programme. In the first stage, the application of the plan will be

limited to certain classes of workers and to certain regions only and the expansion will then be effected gradually if requirements for such an expansion are complied with.

1. Preparatory stage

Two important measures of the Ministry of Labour are :

a. to establish an autonomous institution for the administration of social security programme;

b. to conduct training courses to give basic training for members of the staff which at least already have theoretical knowledge.

2. Initial stages

As the available staff members will be very limited, activities in the beginning must also be limited. The total number of the members of the organization must be increased immediately both by voluntary and compulsory membership embracing at least 100,000 workers. In the case of compulsory membership, industries of the same type may be combined as far as possible in order not to harm a number of enterprises among them in view of free competition. The primary objective should be improvement of the condition of workers who at present get little or no social benefits. The opinions of labour organizations and employers must be paid due attention before a decision is made which enterprises must be included in the insurance system stipulated in collective agreements.

3. Further developments

All further developments relating to insured medical treatment in the health insurance system, both affecting the numbers insured and the regions covered, will depend on the health facilities available. Old-age and heirs insurance system should be extended to as many workers as possible with a view to financial stability.

Compulsory on-duty accident insurance and on-duty sickness insurance ld be instituted initially for industries that are well-acquainted with illness insurance system. Pregnancy and child delivery insurance will be roduced in due course; this too applies to industries with illness rance programmes. It is only after five or six years that institution disability insurance can be considered.

The administrative organization will develop gradually as the number of l offices are established, so that the time will come for the establish- t of a Provincial Directorate by expansion of the existing office in the rincial capital concerned.

(c) General recommendations

Preparations should be made in all sectors and levels and carried carefully, especially in view of the financial questions involved.

confidence of the general public as a primary condition for the success the plan can only be obtained and maintained on the stability and regular mission of all the promised allowances.

CHAPTER 15

H O U S I N G

1. Introduction

As a result of World War II and the subsequent revolution, housing in Indonesia is in a deplorable condition. The situation is further aggravated by the unusually high rate of increase of population (see chapter on Population) and the flow of rural population into the towns. This latter factor has been the main reason for the extremely bad housing situation in the towns that is almost beyond human conception. Housing conditions in rural districts are also generally depressing. This is due, in addition to poverty, to traditional methods of building houses which are far from meeting elementary health requirements.

This condition has far-reaching consequences in social fields, such as very bad health conditions, different kinds of criminality, incessant dangers of fire, social tensions, etc. Apart from social consequences, this situation involves economic consequences also: bad housing conditions affect the desire to work and enthusiasm for work, which in turn influence the rate of production. In view of this, it is the Government's duty to take positive measures to lessen these undesired consequences and to endeavour in future to avoid their recurrence. But considering the available funds during the next five years, the main emphasis in the first Five-Year Plan will be laid on the economic angles that are directly involved in increasing production. It is hoped to have more funds available after the first Five-Year Plan so that appropriations for social service purposes (including housing) will be bigger.

Consequently, the Government's role in housing problems in the first Five-Year Plan will be very limited, as explained hereunder:

For the next five years the appropriation available for housing amounts to Rp 95 millions. This allocation covers, inter alia, expenses for investigations on technical construction of houses and for extension of information on housing.

1. The role of the Government

In this first Five-Year Plan, the Government's role in the housing problem is very limited and primarily embraces the following:

a. Investigations on the technical construction of houses.

b. Providing information to the people about the results of those investigations.

c. Simplification of administrative procedures and granting facilities for housing construction.

d. Promotion of increased production of building materials.

e. Collecting data about housing.

a) Investigations on technical construction of houses

These investigations are directed toward finding the right methods of construction of houses consistent with the minimum requirements, such as:

1. Healthy houses.

2. Houses made of strong and durable materials.

3. Houses that are least vulnerable fo fire danger.

4. Houses that are sufficiently attractive although simple.

5. Houses with cheap construction costs.

In this connection, investigations on the possibilities of normalization and standardization of building materials are highly important. These investigations cover a very extensive field in view of the great variety of the building materials used by the people in Indonesia and of the types of houses built. Consequently, technical investigations on house construction must always be based on local possibilities in each region.

Furthermore, it is also necessary to conduct investigations on building materials found in Indonesia but not in general use, on new combinations of commonly used building materials, on manufacture of building materials that have so far been imported from abroad, etc. The same applies to building appliances and equipment.

In these investigations, priority is given to type of houses with cheap construction cost which can be paid by people of the lowest income brackets. At present, investigations are being conducted on technical house construction by the Buildings Problems Research Institute in Bandung.

b) Information concerning results of investigations

The above investigations will only have a meaning if the results obtained can be applied in practice by the people. Therefore, the results of the investigations must be delivered to the general public through various means, inter alia, by construction of sample houses. The information is in broad outline directed toward two groups:

Individuals or organizations directly involved in house building because of their professional skill or for other reasons. This group consists of building technicians, carpenters, building contractors, building materials manufacturers and building equipment manufacturers, etc. The second group is made up of the general public. This information is highly important, especially for the rural population, most of whom build their houses without the help of building experts or carpenters but by themselves and with members of their families and neighbours.

It need not be mentioned that the method of giving information to the general public must be in the simplest possible ways, so that they can easily understand it, and must be given tactfully so that the recommended methods of house building can be accepted as a substitute for the traditional systems which do not meet with the health requirements.

The People's Housing Service is charged with this information function which it performs, inter alia, within the framework of the Village Community Development Plan (see chapter on Village Community Development Plan). Information to co-operative associations and other people's organizations is very useful. The Civil Service also plays an important part in this information campaign.

c) Simplification of administrative procedure and extension of housing construction facilities

Another important duty of the Government is simplification of administrative procedures concerning house construction and lease, which at present are checking the desire to build houses, especially in cities. Apart from that, facilities are also needed for those who plan to build houses, such as regarding the prices of land, etc. Particularly in urban districts, speculation on building lands should be prevented, since it results in extremely high costs of house construction. Old-fashioned house and building construction regulations need revision and should be adapted to present possibilities.

c) Stimulation to increase building materials production

To meet the need for building materials, it is recommended that building materials factories be established. These factories are recommended to maintain a close contract with the Government agencies conducting investigation on building materials (see sub-section a). In the interest of improving the quality of bricks, tiles, etc. especially of small industries, and for the purpose of profitable operations of these industries, the Government has set up Central and Pilot Plants in several regions; in addition, the Government has also established cement factories, wall-board factories and asbestos-cement pipe and flooring factories.

e) Collection of information

Information collected on housing includes data on the total number of houses in each region, specification of the types and nature of the houses, etc. Sufficiently reliable documentation and statistics regarding these, and information concerning the total of population and increase of population in each region, will give a clear view of the housing needs and the number of houses that must be built each year.

f. Financing of house construction

On the basis of the explanation in Section A, it is clear that the financing of housing construction cannot be placed on the Government but must be the direct responsibility of the entire population. The income level at present of the largest section of the population is so low that the cost of construction of houses is a very heavy burden for them.

The method to be followed therefore in solving the financing problem is joint efforts by establishment of such organizations as housing co-operatives, institutions, etc. The Government is obliged to assist and guide these organizations within the limits of what is possible. But the most important thing is that these organizations should remain a joint effort based on own strength of the community and not dependent merely on Government support. Housing credits are channelled through credit institutions (banks), co-operatives and Village Community Development organization.

CHAPTER 16

RURAL COMMUNITY DEVELOPMENT

Introduction

1. The object of Rural Community Development is to raise the standard of living of the village population by integral development of the Rural community based on the intrinsic strength of the village community itself and on the principle of mutual agreement between members of village community, with the guidance assistance of the Government agencies which act as complete unit in the framework of a uniform general policy. The Rural Community Development Programme is a principal part of the first Five-Year Plan.

2. What is meant by integral development is a balanced development of all the angles of the rural community (agriculture, public health, education, housing, industry, credit system, etc. + which insures harmonious and impartial development. But it must be remembered that the emphasis in the beginning must be laid on economic development, i.e. any development work that directly increases production and consequently raises the income level of the members of village community (example repair of a bridge or a movement for use of better agricultural and industrial equipment and materials must have a higher priority than training courses on general knowledge). But this does not mean that other efforts that indirectly will increase production will be ignored, such as illiteracy campaign, etc.

3. The principle of self-help means that any effort must in the first place be based on the intrinsic strength of the village community itself in respect of manpower as well as of materials, equipment, financing, etc. In this way all the existing potential resources in the village community are mobilized to advantage without depending on Government support. This is not to say that everything must be carried out independently of the Government or entirely without Government help. Under this system a part of the

development efforts which up to this time have been purely a Government responsibility are now carried out and financed by the village community (for example: construction of school houses). Hence there will be more money available for large-scale projects which might face the danger of postponement of execution because of lack of funds in rupiahs (for example: large-scale projects at Asahan, Djatiluhur and elsewhere).

4. The principle of mutual agreement implies that development projects must be those that are really needed as essential to the village community concerned, while the decision to carry out those particular projects is not imposed or forced by higher authorities, but is a joint decision adopted by the members of the village community concerned.

5. All this must not be interpreted to mean that the Government or its agencies take a passive attitude in these affairs; on the contrary, Government agencies must be able to give directives and guidance in determining the type of projects, the order of priority and the execution of the said projects, without compulsion. These Government agencies must act as an integrated whole in the sense that there must be convergence in the policy of approaching and solving the rural community problems. For this purpose there must be a uniform general policy conscientiously laid down by the Government. Its execution must however constantly be adjusted to existing conditions and local requirements and possibilities.

Apart from giving directives, guidance and instructions, Government agencies may help in equipment and materials that are possibly not available in the area; in certain cases direct financial help may be granted preferably as a loan that must be paid back by the desa concerned , when the execution of those projects is clearly impossible without the said financial help.

But it must be ensured that financial help, material and equipment supplied by the Government do not interfere with development of the principle of self-help, which might lessen the sense of responsibility and induce members

the village community to lean too heavily on Government help, with the danger of other villages demanding assistance as a condition of doing anything.

I. The present situation

1. The principle of self-help and mutual agreement has long been established in the village community; although this principle has generally been applied unconsciously and for the maintenance of the existing conditions (and not primarily applied for conscious development of something new). Neighbourly help ("gotong-rojong") among villagers in the interests of its individual members (such as building a house) and co-operation in the interests of the entire village (such as maintenance of roads and canals, village security, etc.) are obvious forms of self-help in the village community life. Although described by different names in various regions, the term "gotong-rojong" is generally accepted for this co-operation throughout the country. The fact that the principle of self-help and mutual agreement are applied consciencously and in the form of definite organization for development of something new is evident from the developments of the co-operative movement and other popular economic organizations (produce marketing organizations, etc.).

2. Guidance and help of Government agencies have been applied intensively and considerable profitable results have been obtained in the respective fields. Weaknesses and shortcomings:

(a) Each Government agency with its vertical structure (some as far as Regency and even Sub-District) moves in a particular field which is only one aspect of the village community needs.

(b) Co-operation between these agencies in the form of co-ordination on different levels is not as it should be, especially in solving problems directly affecting village community.

(c) The respective officials (especially subordinate staff) are limited in their technical skill to a particular field, so that it is difficult to conceive or carry out anything more comprehensive.

Consequently, no integral development at the village level has been carried out jointly by the various Government agencies on the basis of a definite basic programme, but piecemeal development in various fields has been carried out independently, according to individual policy. Often their efforts are intersecting or duplicated or indirectly and unintentionally hurt each others efforts or are not in agreement with local requirements. Moreover, too many of these efforts lean on Government help.

In this way it is evident that as a whole the principle of efficiency is not applied as it should be, while the results obtained are far below potential capacity. Inspite of this, the need for co-ordination has long been felt by various Government agencies as explained above.

This is evident from various projects, as follows: establishment of Model village (by the Ministry of Internal Affairs), of Village Social Institutes (by the Ministry of Social Affairs), of Village Community Educational Institutes (by the Ministry of Agriculture), Inter-departmental Co-ordination Bodies (in various regions) and various other activities on the basis of village community initiative and self-help, such as construction of school buildings, village halls, etc.

Elements of programmes

1. Considering our lack of funds and trained personnel, the execution of the Rural Community Development Programme will temporarily be limited. A large-scale campaign covering the entire country all at once will, it is feared, end in failure. In the first stage, therefore, this programme is carried out in certain large regions in the whole of Indonesia with an

appropriation consistent with the available resources.

The regional unit in which the Rural Community Development Programme is carried out is called the Project Area. It is necessary that the Project Area is not too extensive to avoid an alienation between the population and the official giving the guidance and assistance in the Rural Community Development Programmes; however, it must not be too small either and out of proportion with the available appropriation and technical personnel. To obtain the most efficient working system, in view of the size of its territory, the number of available technical personnel and the size of its population, a Project Area would be most appropriate at approximately the size of a District.

2. The Rural Community Development Programmes are carried in these Project Areas on the above basis and covering the entire fields of the village life, inter alia, agriculture, stock raising, irrigation, child and adult education, public health, communications, small-scale industry, co-operation, housing, etc. All efforts in this field are directed towards integrated reconstruction based on the "gotong-rojong' principle. The Government agencies stimulate these "gotong-rojong" activities and extend adequate help and guidance in the form of information, training courses, exhibitions, etc. For satisfactory discharge of their duties and to ensure efficient co-ordination, working relations between the various Government agencies need improvement (see further discussion below on organization).

The Rural Community itself is to determine the kind and size of the projects to be carried out according to their own strength and the requirements of respective villages. Government financial assistance covering partial cost of the projects may be obtained through the Rural Community Development Organisations.

3. Project Areas are divided into Primary Project Areas and Complete Project Areas. The difference between the two types lies in the intensity of the activities of the Rural Community Development organizations. Activities in the Complete Project Area need more technical personnel at their disposal and also more Government assistance. In the beginning the work will be limited to Primary Project Areas (which are more limited than those of the Complete Project Area) after the development activities in these Primary Project Areas are progressing satisfactorily and prosperously and have reached a certain level; they are then promoted into Complete Project Areas. Consequently, Government help will increase accordingly and more reconstruction work can be carried out.

But it must be pointed out that greater Government assistance is not to be interpreted to mean that the percentage for individual development project in the said area will also increase correspondingly. On the contrary, the percentage of Government help for each type of project should decrease gradually until in the end it no longer requires any Government help. In this way more funds will be available fo the execution of other projects in the same Complete Project Area. If for instance 50% of the entire expenditure required for construction of a water supply canal was borne in the beginning by the Government (in the form of money and materials), this assistance must be reduced and less than 50% for construction of another new canal in the same village (desa) and to continue to decrease for every new canal construction, so that after a few years construction of canals in that desa is to be borne entirely by the village community itself.

4. In the first year of the first Five-Year Plan, development programmes are to be carried out in 16 Primary Project Areas spread all over Indonesia. The 16 Primary Project Areas have been chosen and their specification may be referred to in section G concerning "Initial measures already taken". In each

ceeding years, 16 new Primary Project Areas will be established and
he Primary Project Areas of the preceding year promoted to Complete
Areas. The yardstick for promotion of Primary into Complete Project
ll be determined later, depending among other things on the extent of
tivities of the community in each of the said Primary Project Areas.

5. Schematically, development of the said Project Areas in five years is
llows:

	Second year	Third year	Fourth year	Fifth year
oject	22 Primary Project Areas	28 Primary Project Areas	34 Primary Project Areas	40 Primary Project Areas
	10 Complete Project Areas	20 Complete Project Areas	30 Complete Project Areas	40 Complete Project Areas

ive years therefore, this plan will cover 80 Project Areas.

6. Apart from Rural Community Development projects in the established
ject Areas, reconstruction work in other parts not yet chosen as Project
s throughout Indonesia is carried out co-operatively on the basis of the
tong-rojong" principle. Although the Government is not yet able to
locate special funds for these regions, "gotong-rojong" activities here must
constantly encouraged and given sufficient guidance. Government agencies
tside the Project Areas should also endeavour to keep closer co-operation
tween each other, although Rural Community Development Organizations have
t been set up in those areas.

Executive organization

1. The form and composition of the organization charged with the
xecution of the Rural Community Development Programme must be such that the
undamentals described in the Introduction are actually respected.

2. To insure that the Government agencies in carrying out the Rural
mmunity Development Programmes really act as an integrated whole under a

general uniform policy, special bodies are formed on the Central Government, Provincial, Regency and Project Area levels. These bodies are intended to ensure efficient co-ordination between ministries and departments respecting rural developemnt activities; they are responsible for guidance and extension of Government help to the village communities, for education training courses, seminars, etc. of the required personnel for the village development and for other measure relating to the execution of the Rural Community Development Programmes.

3. In the Central Government a Rural Community Development committee has been set up with the Prime Minister as its general chairman and representatives of all ministries, of the State Planning Bureau and (when required also representatives of social organizations engaged in village development programmes as members. This committee is responsible for guidance, and supervision of the entire Rural Community Development Programmes.

For the Committee's Executive Board, two Board chairmen, a secretary and a number of Board members are appointed. The Rural Community Development Committee has an office called the Village Community Development Bureau headed by the first Board chairman.

4. Apart from that, a Technical Council in set up in the Central Government, with all secretaries-general of all the ministries as members; its duties are to submit considerations and recommendations to the Rural Community Development Committe. The Rural Community Development Committee's Executive Board chairman acts as a secretary of the Technical Council. It is hoped that with this Council technical co-ordination in the Central Government will be further ensured.

5. For appraisal of the result attained by Village Community Development Programme, a Rural Community Development Evaluation Board is set up consisting of technical members who periodically appraise the progress of the Rural Community Development Programmes. To ensure objective valuation the Evaluation Board has no hierarchical relation with the Rural Community Development Committee. The Committee and the Evaluation Board submit these reports independently to the Economic and Planning Council.

6. On Provincial (or equivalent administrative area) and Regency (or equivalent area) levels, the Governor, the Regent (Bupati) and the highest Rural Community Development official, on their respective levels, act as co-ordinators. As Governor and Bupati are very busy with their daily duties a "special official" is attached to each of them with the special duties of executing the Rural Community Development Programme at Provincial and Regency levels. These special officials manage the Rural Community Development offices and they are in charge of the administration of the Rural Community Development programmes.

7. Furthermore, a Co-ordination Council is set up in each Province and Regency under the chairmanship respectively of the Governor and the Bupati. The members of this Co-ordination Council consist of representatives of Government departments, Inspectorate offices representatives and leaders of social institutions in the areas concerned. This Council helps in the execution of the Rural Community Development Programmes by efficiently co-ordinating all the activities relating to those programmes.

8. At the Regency level, Project Areas are formed, each comprising approximately the average territory of a district. The District Chief (Wedana) also acts as Chief of the Project areas, and for executive work he is assisted by a Deputy Chief of the Project Area who heads the Rural Community Developme

office in the Project Area. Technical personnel of the various Government agencies in the said Project Area form the Project Areas Staff; also tjamats (sub-district chiefs) in the Project Areas concerned are included as staff members.

9. Furthermore, these are special personnel in Project Areas called the Village Community Development workers. These men are not technicians working in special limited fields but are multi-purpose officials, i.e. they are responsible for giving information and guidance to the village population affecting every angle of the village life such as agriculture, stock breeding, public health, construction and maintenance of roads and water canals, construction of houses, establishment of co-operative associations, small-industries, etc. Naturally, these officials do not have specialized knowledge in every one of the above-mentioned fields, but they know enough about each subject as to enable them to give guidance and information to the village population. These officials work under the Project Areas Chief and automatically have also direct and close relation with the technical officials of the Project Areas Staff. In reality these Rural Community Development officials are the ones that maintain direct communication with the village communities and they form the core of the execution of the Rural Community Development Programmes. They are responsible for guiding the village communities and direct the living aspirations of the villagers to develop their community in line with the principles of the Rural Community Development Programme, i.e. intergral development on the basis of self-help and mutual agreement between the village population. These same Rural Community Development officials are the ones that continue and extend guidance and assistance of the Government agencies to the village community and act as

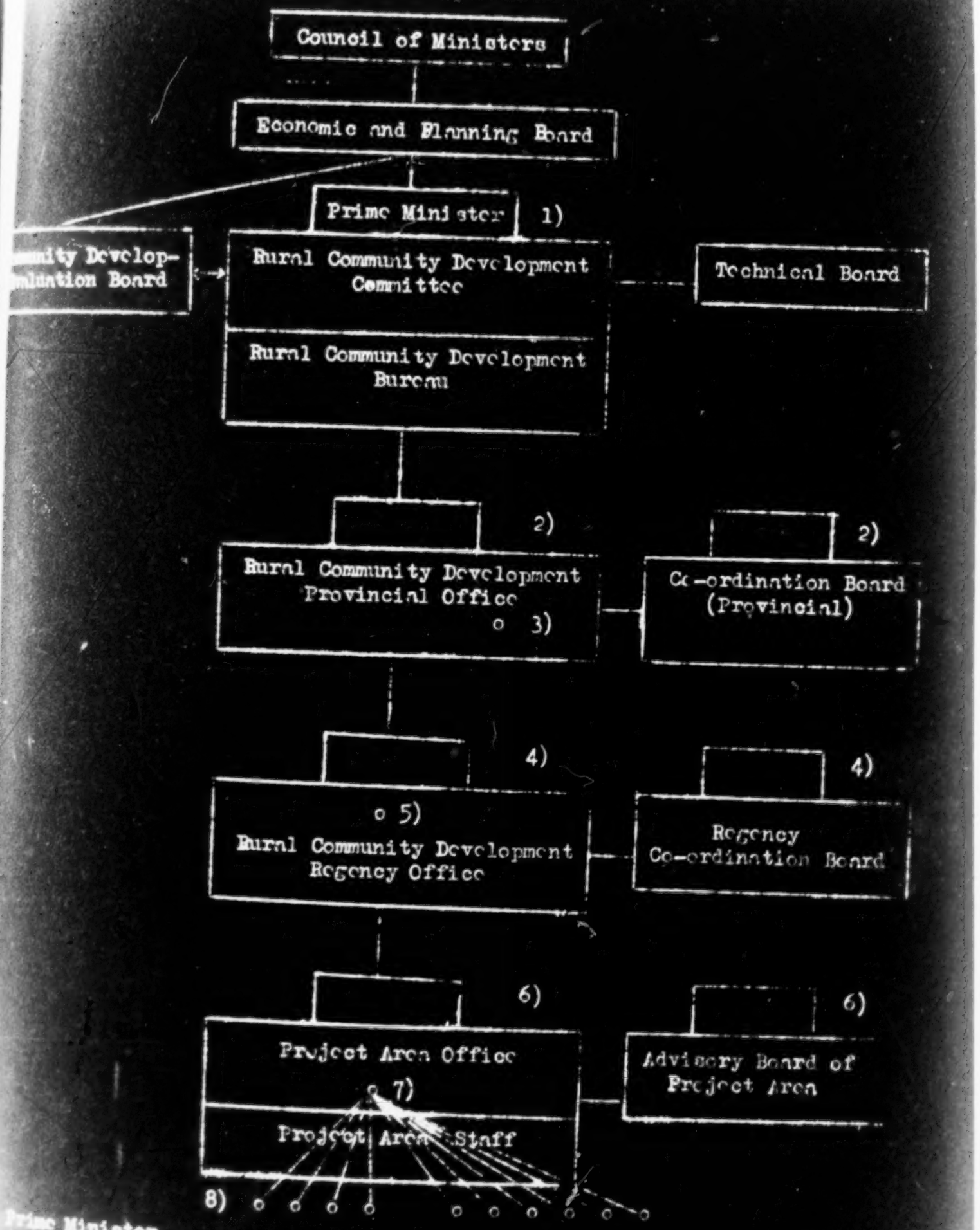
liaison officers between the village population and various groups of technical officials. In each Project Area, there are a number of Rural Community Development officials whose respective jobs embrace several desas (villages). Temporarily, it is planned for 1956 to appoint to Rural Community Development officials for each Project Area.

10. Since on the Project Area level, the technical personnel of the various departments or inspectorates are united in the Project Area Staff, there is at this level no Co- ordination Council as is the case with Province or Regency levels, but an Advisory Board with members consisting of several Desa heads (or Administration chiefs of territories equivalent with desa) appointed by the entire desa chief in the Project Area concerned and representatives of various social institutions in the said Project Area; the chairman is the Chief of the Project Area.

The duties of this Advisory Board are to give advice, suggestions, considerations, etc. to the Project Area Staff and to discuss problems brought forth by the Project Area Staff. In this way, the Advisory Board is a canal to channel the desires of the community in the Project Area and in that way the Project Area community becomes actively responsible for the reconstruction work.

11. It must not be forgotten that the composition of the executive organizations on various territory levels, as described above, is not one that is not subject to change. Although uniformity down to a certain level must be sought, the form of Rural Community Development organization in the regions must be adapted to local conditions and possiblities under consideration of autonomous development of each territory. The organization scheme may be seen in the following chart:

Organisational chart of the Rural Community Development



Prime Minister
Governor/Regional Chief of the same level
Special Community Development officials, provincial level
Bupati/Chief territory of the same level

6) Special Rural Community Development official, regency level
7) District Chief/chief territory of the same level/Project Area Chief
8) Deputy Chief Project Area
9) Rural Community Development officials.

Training

1. For the execution of the Village Rural Development Programme training of a general character is required, consisting of:

   a. Training for Government officials directly involved in the realization of this programme.

   b. Training courses for village leaders.

   c. Special vocational training courses.

   d. Training courses for village school teachers.

2. The training courses for Government officials are primarily intended for Rural Community Development and Project Area staff officials. These courses consist of both training center and in-service training; both courses cover various fields including agriculture, stock breeding, co-operatives, health, public works, mass education, small industries, etc.

3. To create a team spirit in their work in the future, it is best to establish training centers for various types of officials in the same region in order that various problems can be studied together and be solved together. In this way too, extension activities may be conducted together as a part of functional training. Training centers will be increased in number in keeping with the progress of the programme, while in the first stage, training centers will be centralized in certain regions.

4. The first step in carrying out in-service training is to hold monthly meetings in the Central Project Area (district) for all Project Area officials. In those meetings ideas and experiences are exchanged concerning the methods and practice of extension activities already conducted by respective officials.

...e meetings should be attended to by members of the Advisory Board.

Furthermore, periodical seminars are held on the provincial level to be followed by turn by the Project Area officials. Provided they are conducted properly, those seminars will produce useful results since the officials will thereby increase their understanding of the problem. These provincial seminars should be followed by periodic seminars held at the centre and attended by officials of all the provinces.

It would also be useful if the officials visited one another's area, located either in the same province or in a different province. Also to send officials of the Rural Community Development and other technicians to other countries for observation and study of developments in the Rural Community Development there.

5. This Rural Community Development programme cannot possibly be realised unless village leaders are prepared to give guidance in the execution of this programme. Therefore, it is essential that village leaders are trained in everything connected with this programme. And this type of training will only be able to produce successful results if it is conducted within the framework of this programme.

Those people may be given training in periods during which, for example, they have little work in the rice fields. It would be best to conduct these training courses coinciding with the time of holding fairs and exhibitions by various Government agencies where they display their respective activities.

6. Special vocational training courses (for carpenters, smiths, masons, etc.) embracing training skilled workers and educating new carpenters, smiths, etc. to show them the use of better equipment and more practical and efficient methods. The training of already skilled workers should be held in the existing centers or arrangements should be made to get touring instructors to train them. Furthermore, efforts should be made to establish vocational training courses with the object of creating small co-operative industries

such as cordage manufacture, tile industry, tobacco industry, etc.

7. Village school teachers play an important part in the realization of this plan, not only because these teachers are prominent in the village community but also it is they who educate children in the villages who in future will be carrying out this programme too. In view of this, it is necessary that special training be given to the teachers respecting the Rural Community Development programme, during the school vacations. These trainings are approximately the same as those for village leaders. Moreover, the principles of Rural Community Development should be a principal part of the curriculum for teachers' training schools.

F. Financing

1. The appropriation provided in the Five-Year Plan for the Rural Community Development Programme is Rp 198,000,000.

2. As the Rural Community Development is based on self-help among the village community, the above appropriation must be considered merely as Government assistance. It is hoped that the village community itself will contribute at least equal amounts to the appropriation provided by the Government, increasing gradually to greater sums, both in the form of manpower, materials and money.

3. The expenditure provided for a Complete Project Area is bigger than for a Primary Project Area.

4. As has been explained in Section C (the essentials of the Programme), 16 Primary Project Areas will be formed in the first year and 16 new Primary Project Areas in each following year, while 10 of the old Primary Project Areas will be promoted each year into Complete Project Areas. In that way, there will be 40 Primary Project Areas and 40 Complete Project Areas at the end of the fifth year. If this order of arrangement is followed, it is estimated that the total amount required for the five-year period will be Rp 79 million for the Primary Project Areas and Rp 80 million for the Complete Project Areas.

5. In addition to direct expenditures for Project Areas, appropriations will also be needed for other purposes such as training courses. The amount for these purposes is Rp 39 million.

6. Specification of the above appropriations for the five-year period is given below:

Appropriations for Rural Community Development Programmes
(in millions rupiahs)

ption	First year	Second year	Third year	Fourth year	Fifth year	Five year
y Project Areas	9	12.4	15.8	19.2	22.6	79
te Project Areas	-	8	16	24	32	80
xpenditures	4	6	8	9.5	11.5	39
.....	13	26.4	39.8	52.7	66.1	198

7. It is hoped that Complete Project Areas will be able to stand better on their own feet so that Government help can be gradually reduced to a certain extent, if possible until it is no longer required.

8. Actually if the funds can be united by Government agencies with parallel programmes whose objects are interwoven, a great deal can be achieved for the realization of this programme.

9. Apart from funds alloted from the national Budget, there are also possibilities of foreign aid or international aid for the realization of this programme, especially in view of the great interest at present upon Rural Community Development.

C. Initial activities already begun:

1. In November 1955, an Indonesian delegation went to Burma, Ceylon, India and Pakistan for a three-month study of Rural Community Development.

2. A women's delegation in February 1956 left also for Burma, India and Pakistan for the same purpose.

3. A comprehensive conference was held from 2 to 3 May 1956 in Djakarta under the chairmanship of the State Minister for State planning.

4. A Provisional Executive Committee has been set up to make preparations for the execution of the Rural Community Development Programme, according to the decision of the State Minister for State Planning dated 20 June 1956, No. 288/M./1956.

5. Sixteen Primary Project Areas have been established for the whole of Indonesia, viz:

North Sumatra	2
Central Sumatra	1
South Sumatra	2
West Java	1
Djakarta-Raya	1
Central Java	1
East Java	1
Special Territory of Djogjakarta	1
Kalimantan	1
Sulawesi	2
Nusa Tenggara	1
Maluku	2
Total ..	16

6. A training course for 160 selected Rural Community Development officials from the 16 Primary Project Areas was completed on 9 August 1956.

7. Seminars and conferences for special Provincial Rural Community Development officials, special Regency level Rural Community Development officials, chiefs and deputy chiefs of Project Areas have been held.

8. Seminars and conferences have also been held for Project Area staff members of the Rural Community Development. All of the officials referred to in items, 6, 7 and 8 are personnel of various Government agencies, so no new Government employees had to be appointed.

9. Three foreign technical workers have been engaged for the preparation of preliminary measures, for a period respectively of 2 months, 3 months and 6 months.

10. To organize the establishment of Rural Community Development, executive organizations on Provincial and Regency levels have been set up, while establishment of a Rural Community Development Committee is now in process of completion.

11. All Project Areas were officially opened on 17 August 1956.

CHAPTER 17

C O O P E R A T I V E S

1. Introduction

Since independence, the co-operative movement has made rapid progress. We have actually long been acquainted with co-operative principles, but during the Japanese occupation they were altered so much until they were unrecognizable. The first thing to be done after independence has therefore been to restore the co-operative to its original foundations. Great success has been attained in this, thanks to the persevering efforts of the supporters of co-operative movement.

The Five-Year Development Plan is a capital investment plan in character, the Government expenditures for the realization of co-operative development mostly have the nature of routine expenditures. The main discussion in this chapter will concern the following:

a. Recent development of co-operatives.

b. The role of the Government.

2. The situation and development of co-operatives

1. Number and types of co-operatives

Co-operatives	1952		1953		1954		1955	
	Number	Incorpo-rated	Number	Incorpo-rated	Number	Incorpo-rated	Number	Incor-porated
Federation of co-operatives	-	-	2	2	2	2	2	2
co-operatives	99	-	125	22	128	24	141	26
co-operatives	2,092	45	2,705	87	3,475	131	3,873	134
co-operatives	2,053	252	2,453	467	3,172	553	4,319	650
co-operatives	487	3	731	16	663	16	642	14
co-operatives	1,483	38	1,473	62	1,278	76	1,344	120
co-operatives	1,231	13	888	24	683	22	821	27
operatives	222	13	251	37	183	15	304	6
Total	7,667	378	8,626	715	9,503	839	11,446	979

Source: Co-operative Service.

The incorporated co-operatives have passed through three stages of development namely the stage of observation, supervision and recognition (licensing). Provincial co-operative banks are found in West and East Java; central Co-operatives cover a Regency as their area of operation. Village co-operatives have a multi-purpose character, i.e. co-operatives carrying on various closely related activities. They are therefore different from credit co-operatives, for instance, which work in the credit fields only. The village co-operatives have both favourable and unfavourable aspects. But village co-operatives appear to be developing prosperously, especially in West Java, although only a small number have so far been incorporated. It is seen from the above table that less than 10% of the co-operatives are corporate bodies. This implies that the co-operative movement should give more attention to the principles of co-operatives.

At the co-operative Congress in 1947 in Tasikmalaja, it was decided to regard 12 July as Co-operatives Day and in the second Co-operative Congress in Bandung in 1953 an Indonesian Co-operative Council was set up in Bandung as the center of the co-operative movement in Indonesia. The duties of the Indonesian Co-operative Council include co-operative education and information and to represent the co-operative movement in its relations with the Indonesian Government and foreign countries. It is not impossible that the total number of co-operatives will increase to 25,000 by 1960.

2. Total members of co-operatives

The memberships of co-operatives during the last few years was as follows:

Year	Total membership
1951	1,000,324
1952	1,179,422
1953	1,431,977
1954	1,644,465
1955	1,938,074

Source: Co-operative Service

If the total population of Indonesia is estimated at 82,000,000, the ratio population: members of co-operatives is 41:1. In 1955, the proportion of male and female members of co-operatives was 3:1.

3. Savings

The total of savings in the last few years was as follows:

Year	Total savings Rp	Total Reserve Capital Rp
1951	35,313,040.95	3,473,983.10
1952	56,389,371.25	3,262,183.53
1953	76,357,765.62	5,324,051.45
1954	150,262,732	27,338,029.66
1955	268,597,935.76	45,221,279.24

Source: Co-operative Service

The problem of savings is a peculiarity for the co-operative movement in Indonesia. To emphasise the principle of self-help in the co-operative movement and to ensure capital formation, different types of savings have been instituted as follows:

a) Initial savings

This is an initial savings required from each candidate member of a co-operative; the same amount may be withdrawn when members desire to leave the co-operatives, less the proportionate amount of the expenses incurred by the co-operative, if needed by it; while remaining a member no one is permitted to withdraw his basic savings.

b) Compulsory savings

Members of co-operatives are required to deposit a certain minimum amount periodically as compulsory savings intended as additional capital of the co-operative; this compulsory saving may not be withdrawn as long as the owner remains a member.

c) Voluntary savings

No amount is specified for this savings which is voluntary in character.

d) Special purpose savings

There are many kinds of savings: for death, celebrations, etc. The amounts of the various savings are as follows:

	1954 Rp	1955 Rp
a. Initial savings	39,405,301.69	56,957,560.96
b. Compulsory savings ..	76,070,560.47	155,006,171.31
c. Voluntary savings ...	24,483,505.24	36,565,269.64
d. Special purpose	10,303,365.26	20,068,933.85
Total	150,262,732.26	268,597,935.76

Source: Co-operative Department.

4. Savings campaign week

Coinciding with the Co-operative Day, Savings Campaign Weeks are organised which are gradually producing results, as shown in the following table:

Number of celebrating co-operatives	Number of people celebrating	Value of savings in kind	Savings in money	Total
347	20,681	-	538,557.53	538,557.53
837	161,652	4,008.—	930,963.14	934,971.14
3,214	492,161	2,007,335.43	2,928,559.38	4,935,894.81
3,548	617,602	834,961.48	7,217,941.70	8,052,903.18
4,465	723,407	793,539.79	15,159,245.18	15,952,784.97

Source: Co-operative Service

III. The role of the Government

1. Co-operative Service

In broad outline, the Government's role in the co-operative movement is as follows: giving information concerning the meaning and principles of co-operatives, co-operative education, supervision of co-operative development

and assistance to the co-operative movement. For the discharge of these Government duties, the Co-operative Department has been instituted as a separate service of the Ministry of Economic Affairs. Its duties include everything relating to co-operatives.

The Government's policy in respect of co-operatives is based on the principle that all functions affecting the co-operative movement will some day be handed over to the movement itself and that some day it will stand unaided on its own feet. In keeping pace with the rapid progress of the co-operative movement, the Co-operative Department needs additional equipment.

2. Information

Information has been given regarding co-operatives in all sections of the country so that it may be assumed that the value and importance of co-operatives is now realized by all classes of the population. This is evident, inter alia, from the unusually rapid progress of the co-operative movement. The important thing now is not just to propagate the importance of co-operatives, but to try to direct the development of the co-operative movement according to the appropriate principles of co-operation. Information on co-operation is therefore inseparable from education on the fundamentals of co-operatives.

3. Education

Education on the fundamentals of co-operation and on the methods of running co-operative enterprises embraces among other things co-operative cadre training courses, application training courses for co-operative officials, lectures on co-operation in universities, etc. It is the intention of the Government to turn these training courses over gradually to the co-operative movement itself, especially the co-operative cadre training courses.

(i) There are at present 43 Co-operative Cadre Training courses spread over all Indonesia. They are intended as village cadres which will return to their villages after completion of the training, to put in practice what they have learned up to the end of March 1956; not less than 17,587 co-operative cadres have graduated from the courses.

(ii) The Co-operative Service holds intensive application training courses for its personnel with the object of improving their qualifications.

(iii) In addition to that, the Co-operative Department sends its officials to study co-operative movements and developments in foreign countries to give these officials a broader view and greater understanding of co-operation. Part of their expenses is borne by the Indonesian Government and the rest by foreign aid.

(iv) Co-operative Department officials give lessons on co-operation in various training courses conducted by different Government agencies, such as agricultural training courses conducted by the Ministry of Agriculture.

(v) On the initiative of the co-operative movements in Jogjakarta and Bandung, secondary schools have been established giving instruction on co-operation, while some secondary public schools are now including related subjects in their curriculums.

4. Supervision

Government supervision on the co-operative movement is applied in stages, follows:

(i) At the initial stage of observation, the co-operative Department gives guidance to newly established co-operative associations

relating to organization, administration, preparation of budgets, work systems, etc. so that their activities proceed in accordance with the principles of co-operation. The length of this stage is uncertain depending on the capacity and development of the co-operative concerned.

(ii) As soon as a co-operative has proved its right to be recognized and its organization, administration and work system conform with the fundamentals of co-operative, it is promoted from the observation stage to the supervision stage, the period of which is also uncertain.

(iii) The final stage is the licensing stage in which the co-operative organization concerned becomes a corporate body. This progress from one stage to another in order to get recognition as a corporate body is deemed necessary to prevent unhealthy development of co-operatives.

5. Assistance

The Government's help to the co-operative movement is in the form of various facilities and direct help in the way of loans. In giving such assistance the Government holds fast to the principle of self-help for the co-operatives, i.e. any assistance is only temporary in character, so that the co-operatives can stand in future on their own feet unsupported. It is necessary to guard against spoiling the movement with government assistance by pampering the co-operatives, for that will kill the sense of responsibility to themselves and finally kill healthy development of the co-operative movement. Facilities granted to co-operatives take the form, inter alia, of exemption from payment of company tax for a period of 5 years and from stamp duty for credit documents. Assistance in the form of credits is channelled through existing credit institutions.

It is hoped that the existing Provincial Banks (in East and West Java) will play an important role in the extension of these credits. Direct help may also be extended to co-operatives through Village Community Development organizations. In the Five-Year Plan credits for co-operatives are recorded under the "for memo" items.

6. Co-operatives Act

The legal basis for co-operatives has up till now been the regulation issued in 1927 and amended in 1949. To create a favourable sphere for healthy development of co-operatives, there should be a Co-operatives Act which is worthy of an independent nation. This Co-operatives Act is intended to give definite legal position to co-operatives, to project the name of co-operatives, to direct co-operative activities into line of co-operative principles, to insure simple legal procedures for co-operatives, etc. As yet we have no Co-operatives Act.

7. Co-operatives and Rural Community Development

As has been discussed in the Chapter on Rural Community Development, co-operatives are one of the most important items in that programme. What is of paramount importance here is that co-operative activities must be adapted to the fundamentals of Rural Community Development as a whole. For this purpose there are needed efforts to assure convergence in the policies of various Government agencies. Further discussion concerning this is found in the Chapter on Rural Community Development.

CHAPTER 18

T R A N S M I G R A T I O N

A. Introduction

The Five-Year Transmigration Plan concerns only the outlines of the transmigration policy, particularly in its relation to executive organization. In the first year of the Five-Year Plan, an improvement is to be introduced in the composition of the executive organizations; details of the outlines of the policy must be specified further and as complete as possible a plan of execution must be compiled.

B. Present situation

1. Since independence Transmigration programmes have been carried out by three institutions: the National Reconstruction Bureau and Army Veterans Bureau (formerly known as National Reserve Corps) for transmigration of veterans and the Transmigration Department for resettlement of civilian population. The first two organizations are temporary in character as opposed to the permanent nature of the Transmigration Department. In the end therefore there will only be this Transmigration Department in charge of the entire transmigration Function.

2. The total number of families moved and resettled until now is as follows:

Number of families transmigrated
1950 - 1955

Year	Transmigration Department	National Reconstruction Bureau	Army Veterans Bureau	Total
1950	23	-	3,141	3,164
1951	773	1,150	587	2,510
1952	3,850	5,235	2,079	11,164
1953	9,857	1,651	3,194	14,702
1954	8,582	800	-	9,382
1955	5,491	-	-	5,491

Source: State Planning Bureau.
Note: Each family consists on an average of 4.5 people.

Most of the transmigrants are from Java, while since 1953 Indonesians returning from Surinam and New Caledonia have been included among the transmigrants. Transmigrations settlements are found mostly in South Sumatra and some in Central Sumatra, Kalimantan, Sulawesi, Maluku and Banton.

3. In broad outline, transmigration of people is effected in the following manner:

The Transmigration Department, in co-operation with the Civil Service, conducts registration of the people in Java who wish to move and settle in other places. Meanwhile, the Transmigration Department and other Government Services jointly make the necessary preparations in the transmigration regions such as clearing of forests, construction of roads, canals, temporary housing, etc. As soon as all the necessary preliminary preparations are considered adequate, the registered transmigrants are then moved to the transmigration settlement. Moving expenses are paid by the Government and during the first 6 months transmigrants and their families are provided with their daily needs by the Government; they are also provided with the necessary household utensils, clothing, agricultural implements, seeds, etc. some as a loan.

4. In fact the duties of the Transmigration Department only extend to moving the transmigrants and developing the new settlements, if the latter is not included in the duties of other ministries and departments. But as the form of the executive organizations does not fit so well, no effective co-ordination exists between the various ministries and Government agencies. The result is that the Transmigration Department performs the jobs which are properly the duties of other ministries such as construction of roads and canals, for instance, soil investigation, some health and educational branches etc.

5. If we consider the moving of the surplus population from Java at present in the framework of the increasing population problem in Java and lack of manpower on the other islands, we will note that the results obtained are far from satisfactory. Therefore, better methods of transmigration are being sought with promise of better results, without exceeding the extremely limited financing capacity of the Government.

6. Apart from that it is most important that there is improvement in the co-operation between the various Government agencies responsible for the various transmigration functions, which consist not only of moving the settlers, but also of transportation, opening of forests, construction of roads, canals and houses, investigation of the soil, climate, health and economic possibilities of the regions concerned, etc. Effective co-operation between the various Government agencies concerned is therefore an absolute condition for the success of the transmigration programmes.

C. Aims and basic policy

1. There are many purposes of transmigration, in so far as it means moving Java's surplus population to other islands, such as to relieve the population pressure on Java, to provide the necessary manpower in thinly populated areas, strategic considerations, speeding up the process of racial fusion, etc. All of these purposes are closely related to each other; they are interwoven and inseparable. To relieve the population pressure on Java is only possible if the surplus population is moved to other islands. Settlers are only willing to leave if the other islands are sufficiently attractive to promise a better living for them. And better living is only possible if there is large-scale development outside Java. But they latter will be hindered if there is no manpower available. It follows therefore that sufficient additional manpower is indispensable to the progress of develop-

ent activities in those regions and this manpower can be made available by moving surplus population from Java.

2. Resettlement of the surplus population on other islands is possible because the Government makes all arrangements for the moving of surplus population from Java and pays all their moving expenses. In other words, resettlement is effected under guided transmigration. But there is also spontaneous transmigration where settlers move voluntarily and entirely on their own resources. What has so far been effected by the Government is organised transmigration. There is no defined policy for spontaneous or voluntary transmigration although the number of voluntary transmigrants has increased greatly in the last few years.

3. Without prejudice to the importance of organized transmigration, it is important that the emphasis be laid in the Five-Year Plan on the policy of voluntary transmigration. In that way resettlement of surplus population will no longer be entirely the responsibility of the Government but will partly become the direct responsibility of the community itself under guidance and assistance of the Government. Spontaneous transmigration is something natural, i.e. it automatically occurs if there is sufficient attraction from the new settlements. If this is effected, the required funds for transportation and initial living in the new areas can be lessened and used for construction of roads, irrigation works, etc.

4. Under the above policy, the Five-Year Plan attempts to make the new settlements as attractive as possible. And to create such an attraction, the emphasis must be laid on the opening and development of new settlements (outside Java) and on the improvement of communications between the densely populated areas (especially in Central Java) and the new settlements.

The development of the new settlements embraces reconstruction work in the field of agriculture (including estates, stockbreeding, forestry) as

well as development in other fields (large, moderate and small industries, transportation, etc.). For this purpose, opening of forests, construction of water canals, dams, electric power stations, roads and bridges in the transmigration settlements are to be considered fundamental requirements. Naturally all these activities must be based on all kinds of thorough investigation. In addition to that, prevention and control of pests and diseases, conduction of education and vocational training courses are also important conditions for the success of the transmigration programme.

5. Improvement of communications between densely populated areas (especially in Central Java) and new settlements involves communications by sea, by rail and other inland means of transportation. It is, for example, highly important that there is direct railway communication between Central Java and South Sumatra. For this purpose, it will be necessary to improve the sea connection between Merak and Pandjang, to facilitate railway communications between Central Java and Merak, so that it would not be necessary for passenger to stay over night in Djakarta and when possible not even to change trains in Djakarta and to make it possible to buy tickets everywhere in Central Java for direct travel by train to any place in South Sumatra.

6. It is also important to improve means of communications, especially roads and bridges, between the transmigration settlements and the surrounding regions. This will not only facilitate the entrance of new settlers to the transmigration areas but will also facilitate the marketing of products of the transmigration settlements to the surrounding regions so that development of those transmigration settlements can be speeded up.

7. No less important is the construction of new settlements already populated by new settlers. This must be carried out on the basis of Rural

Community Development i.e. integral development of the village community on its own strength and mutual agreement and under the guidance and assistance of the Government agencies which act as a complete whole. Efforts should be made to ensure that the new inhabitants do not depend too much on Government help but endeavour to provide for themselves and consider themselves as pioneers of a new settlement (see chapter on Rural Community Development).

8. In view of the limited amount of funds available and of technical personnel for the realization of the plan, it is considered necessary to review the allocation of transmigration settlements and concentrate the efforts. That is to say during the first Five-Year Plan resettlement of surplus Javanese population must be limited to certain transmigration regions only, such as 2 or 3 places in South Sumatra only. All transmigration activities must be concentrated in these regions instead of spreading them. This does not mean that other settlements which have so far been treated as transmigration regions will be abandoned or ignored. In these other regions consolidation and building up of the settlements must be continued. It is also not intended that people moving to settlements outside the proposed 2 or 3 central transmigration settlements should be discouraged. Any transfer of population fromdensely populated areas to thinly populated ones is very important for economic development. The only point is that the Government should endeavour to concentrate the resettlement in transmigration areas which, on careful consideration and on the basis of definite standards, have sufficient attraction for new settlers, so that the resettlement is truly beneficial to economic development, so that maximum results can be obtained. There are in fact many appropriate transmigration settlements, but in view of the limited amount of the available funds and technical personnel, these efforts must be limited temporarily to only these 2 or 3 settlement areas. Meanwhile, investigations will be conducted during the first Five-Year Plan

regarding the capacity of other settlements (see chapter on Population) which will be used as transmigration regions during the course of the next second five-year Plan.

9. Another important aspect of transmigration is the relation between the new settlers and the original population. The policy followed in this is to create a balance in supplying the needs of the two groups and to create a favourable and healthy atmosphere for their relations. As this problem differs from region to region, the application of this policy in particular and the execution of transmigration in general will produce the best results if it is entrusted to the Government agencies that know the local situation well, i.e. the regional Governments.

10. In connexion with the restricted amount of the available funds, it should be further considered whether clearing of forests must be carried out entirely at the Government's expenditure or whether the Government is only to open the jungles required for the construction of roads and canals, the rest to be done by the transmigrants themselves. Another matter that needs careful consideration is the question whether the opening of forests by contractors companies produce better results than by the transmigrants themselves. Furthermore, mechanized opening of forests need not be expanded before it is proved that mechanized clearing definitely produces better results and consequences than simple method of forest clearing.

11. The amount appropriated for transmigration in the first Five-Year Development Plan is Rp 383 million for the entire five-year period. This amount must be distributed after intensive discussions between the agencies concerned concerning the application of the policy described above. It is recalled that under this policy the emphasis is laid on spontaneous transmigration and graduated transmigration efforts are concentrated on works of general character such as construction of roads, irrigation, etc.

Executive organizations

1. To apply the principles of the above-mentioned policy, the existing executive organizations need to be improved.

2. The fundamentals of the executive organizations are as follows:

a. The form and composition of executive organizations must be as simple as possible.

b. Work connected with transmigration but which is the responsibility of the existing Ministries and Government agencies is to be carried out by them. Such activities embrace soil investigation, construction and maintenance of roads and bridges, water canals and dams, public health efforts, education, etc. In this way, duplication of work can be avoided.

c. Work outside the responsibilities of a ministry or a Government agency is carried out by the Transmigration Department.

d. In the central Government as well as at the transmigration settlements, co-ordination bodies are to be set up consisting of the ministries or Government agencies responsible for the execution of projects directly connected with transmigration programme. Establishment of these co-ordination bodies is entrusted to the regional Government in co-operation with the Government agencies in the said settlements.

e. The co-ordination body at the Central Government is in the form of a Permanent Executive Transmigration Committee whose members are made up of representatives of the Government agencies whose duties are directly involved in the execution of the transmigration programme. This Permanent Committee is chaired by the Chief of the Transmigration Department responsible to the minister concerned and has the following duties:

(i) To prepare jointly the yearly transmigration programme;

(ii) To draw up jointly the transmigration budget;

(iii) To ensure co-ordination in the execution of the programme.

f. The Co-ordination body in the transmigration regions is chaired by the Regional Chief and Vice-Chairman, the local chief of the Transmigration Department (Branch Chief, or Section Chief). The regional co-ordination bodies are required to ensure that the Government agencies responsible for the execution of the transmigration programme actually act as an undivided unit (instead of acting at cross-purposes) and must be in accordance with the rules and regulations fixed by the Permanent Executive Transmigration Committee at the central Government, as adapted to local conditions and potentialities. These regional co-ordination bodies have also the function of preparing proposals for the execution of the transmigration programme in their respective areas to the Permanent Executive Transmigration Committee.

6. The yearly budget for the entire execution of the transmigration programme is fixed jointly by the Transmigration Executive Committee. However, to ensure smooth financing (a continual problem up till now, even though it has been provided in the Budget), the entire Budget for the transmigration programme is to be included in the Transmigration Department Budget. Allocated expenditures for the works carried on by ministries and Government agencies relative to the transmigration programme are channelled directly from the Budget of the Transmigration Department to the ministries and/or Government agencies concerned.

Order of execution

1. The order of execution of the Five-Year Plan affecting transmigration is divided into two periods of respectively one year and four years, as follows:

2. First year:

As the Five-Year Plan on transmigration discussed here touches only the broad outlines of the policy primarily affecting the side of executive organization, a transitional period is needed in which the broad outlines of policy are further extended into details and executive organizations are improved. The first year of the Five-Year Plan is to be used as a transitional period to carry out the following:

(a) Establishment of Permanent Transmigration Executive Committee;

(b) The Permanent Transmigration Executive Committee details and completes the policies referred to above and makes them into a complete Four-Year Transmigration Plan in detail. The Committee's work in this is to determine transmigration settlements (and the transmigration efforts will then be more concentrated), improvement of communications between densely populated regions and transmigration settlements, determination of forest opening programmes (with simple equipment or with tractors) and the agents to be used in opening the forests (transmigrants themselves or contractors or the Government), etc. Also it will determine what is the total area of the land to be allocated to each transmigrant family.

(c) Meanwhile, the current transmigration programme must be continued as before.

3. Second to fifth year

(a) In the second and the following years, the Permanent Transmigration Executive Committee starts with the execution of the transmigration programme following the plan previously compiled in detail.

(b) In the second or third year, the Permanent Transmigration Executive Committee wil start investigations in areas concerned regarding their suitability as transmigration settlements and will also start the preparation of the second Five-Year Transmigration Programme.

4. Supplement

Prior to any decisions that might be taken by the proposed permanent Transmigration Executive Committee, in the first Five-Year Plan, concrete transmigration programmes have been set up including the following:

1. Irrigation in South Sumatra (see chapter on Irrigation).
2. Improvement of roads and bridges in South Sumatra (see chapter on Communications).
3. Improvement of communications between South Sumatra and Java (see chapter or Communications).

In addition to that, aerial mapping has also been made of the Sukadana area in South Sumatra; these photographs are now being worked into maps.

CHAPTER 19

GOVERNMENT ADMINISTRATION

Introduction

An important condition for carrying out the development plan which is still lacking is an efficient Government machinery with sufficiently qualified and experienced personnel. It is therefore the policy of the Government to continue attemps at simplification of the Government administration and Government regulations and to raise the degree of qualification of its officials.

Principal problems

The principal problems we now face in the Government administration are of four kinds, viz:

A. To prepare and apply the Government budget.

B. To distribute Government administrative functions clearly.

C. To organize regional Governments with the most extensive autonomy possible.

D. To increase the efficiency of a qualified and honest civil service.

A. To prepare and apply the Government budget

The State budget constitutes the Government's line of polic. for the year concerned and an instruction for the execution of its duties; it specified the limits in carrying out those duties. Lack of smooth preparation and application of the State budget in the past has been the main reason why the Government departments have had no clearly defined line to follow.

Before beginning work programmes that need several consecutive years to carry out, the officials concerned should have had the assurance that funds will be available at certain periods, so that administrative problems would not be a hindrance to the completion of a project undertaken.

Discussions on budget proposals for development projects should be held between the ministries concerned, the Ministry of Finance and the State Planning Bureau, in time to submit the complete draft budget to Parliament on 1 September preceeding the appropriate budget year.

Difficulties have been found in the execution of the budget. Great delays, for instance, in the arrival of payment authorizations in the regions make it impossible to carry out important projects in time. By changing the "virement system" (virement means the Government's right to carry over the available budget credits from the budget year to the following year withou the approval of the Parliament if all or part of the credits have not been expended) into a "cash system" (as per Emergency Law No.3 of 1954, published in Statu Book No.6, 1954), it has proved to be impossible to prepare an accurate budget by the various ministries.

It is necessary to review this cash system in such a way that there is not only certainty as regards the allocations fixed, but continuity in the execution of the projects is also insured. The factors that call for attention here are the provisons of the Budget Law and the out-of-date regulations for carrying it out and the lack of qualified and efficient administrative personnel.

A State Committee, in considering recommendations submitted by the United Nations expert W. Karakacheff, is currently drawing up a more appropriate Treasury Law for the replacement of the existing Budget Law.

Since 1950, the Ministry of Finance has been continuously conducting courses for the training of administrative personnel. In addition, a thorough investigation is necessary to find out the reasons for the slow progress in the financial administration.

As the Government administration is expanding, the introduction of mechanization in the central Government administration should be considered. In this way, hundreds of payment instructions and other documents can be completed in time.

B. Composition of the Central Government machinery

Lack of stability in the Central Government machinery and repeated re-organizations in the various ministries have aggravated administrative difficulties. By Presidential Decree dated 8 September 1952, No. 211, a State Commission was set up to investigate the organizations of the various ministries (the PANOK - State Investigating Committee for the Organization of the Ministries). This was considered necessary because of "the condition of the State which, among other things, calls for the creation of efficient Government organizations in accordance with the provisions of the Government Regulation No. 20 of 1952".

This Committee completed its mission and submitted its report on 26 April 1954. The Committee proposed that the sphere of activities of the ministries be established by Government regulation. The report states that because some Articles of the Government Regulation No. 20 of 1952 have not been applied, exaggerated differentiation, duplication, excessively large organizations and personnel composition, and luxury have been noted. The Committee estimated that if their proposal was carried out, the budget could be lowered by Rp 130,680,201.

The report is being reviewed at present by the various ministries before it is taken into discussion and decisions are taken on it by the Cabinet. In using this report as a guide in the organization of a more efficient Government administration, subsequent developments since the completion of the report must be taken into account.

C. To organize autonomous regional Governments

An essential condition in enabling the regions to develop their economy is they must be given the opportunity, both organizationally (through the distribution of work between the Central and regional Governments), through the structure of their organization and the regional Government machinery and through adequate finance. Regional Government administration is now regulated by various laws and regulations on legal foundations in force before the promulgation of the present Provisional Constitution - laws and regulations which have raised uncertainty and difficulties.

The primary condition to make possible development of the regions is to introduce a new basic law for regional Government administration. Such a basic law, in addition to establishing election of members of regional representative councils, will create stability in the regions; as a consequence, a more clearly outlined economic policy will be established with a greater sense of responsibility for development to the regional population.

The problem of regional administrative personnel can be solved easily. As the absolute condition for the solution of the regional autonomy is the chance for the regions to have control and to make use of their own resources, it is essential that financial relations between the Central Government and the Regional Governments be defined. A Financial Relations Bill (between the Central Government and the autonomous regions) is now coming up for discussion in Parliament.

The same is also true of a Bill on Regional Tax Regulations and a Bill on Regional Retributions. This is highly important because lack of regulations on regional Government budgets have created great difficulties for the regions.

It may be concluded then that there is an urgent need to issue the following regulations as soon as possible:

a. New Law on regional Government administration.

b. Law on financial relations (between the Central Government and the autonomous regions).

c. Law concerning general regional tax regulations.

d. Law on general regional retribution regulations.

As a consequence of recent developments through out the country and in view of the aspirations of the inhabitants of various regions, it has been thought necessary to form new provinces. Indeed the creation of provinces may provide a framework for the execution of regional development programmes in accordance with the desires of the population of the regions concerned. But this matter needs careful considerations from various angles, such as the question of State finances generally, of the regions in particular, the resources of the regions, administrative relations, personnel, education in general and of all the factors that may affect the development of the regions and their population.

D. <u>To raise the efficiency of Government personnel</u>

On the joint efforts of the Ministry of Labour and the State Planning Bureau, a Labour Exchange Statistics Working Committee was set up on 18 May 1954 under the chairmanship of a representative of the Ministry of Labour. The Committee has issued statistics on the total of Government employees as at end of 1953. The total given was 1,727,548 persons, excluding members of the Armed forces. The conclusion to be drawn from the report is that the present size of the Government machinery is exceedingly great in comparison with that of 1944.

Although admittedly Government functions are now greater than before, it is doubtful whether the threefold increase in the number of Government employees is consistent with the additional volume of Government functions.

The policy followed in regard to matters of personnel is as follows:

a. To simplify the entire Government machinery (including that of the regional Governments);

b. To raise the qualifications of the employees;

c. To give due appreciation to capable officials.

For the purpose of simplification of the Government machinery, proposals must first be submitted regarding the actual excess of the Government personnel. It is imperative that opportunities for special trainings are open to excess workers and officials of the Government to fit them for other jobs in other fields.

In this matter, the question of employment must be given due attention. It must be studied by a State Committee which must report within a specified period of time the results of its investigations to the Government and submit concrete proposals for solution. All the efforts of the various ministries to raise the qualifications of the personnel should be continued.

The methods of evaluating the qualifications of the personnel as given by the Government Salary Scale are unsatisfactory due, inter alia, to the absence of job description and job evaluation in the scale.

The Personnel Affairs Office should be commissioned to lay down Government policy affecting personnel problems, to draw up plans and control the application of Government regulations governing personnel affairs.

CHAPTER 20

PLANNING ACTIVITIES AND ORGANIZATION

Overall planning embraces the following activities:

A. Preparation of a long-term plan (5, 6 or 10 years);

B. Preparation of regional development plans;

C. Preparation of annual programmes;

D. Establishment of policy regarding development;

E. Study of the results obtained;

F. Collection and analysis of the statistical materials.

The above activities form a complete unit which is absolutely inseparable and forms a basis for the composition of organizations to carry out the said programmes and also a basis for the work system of these organizations.

A. Preparation of long-term plans and their organization

In addition to skills and expert knowledge, financing is an absolute condition for every plan. As the budget is the biggest source of financing, it is necessary to analyse and review the budget over several consecutive years. The allocation of the development funds to various economic and social fields is based on an order of priority in execution already fixed. The development programmes submitted here are based on these decisions on the one hand and on the plans of the various ministries, on the other.

It is therefore clear that this work needs the closest possible co-ordination between the ministries, Government agencies and all the institutions concerned, both governmental and private. Our economic life, although planned, is not tied down. Planning is not static, since it is constantly subjected to review as to the conformity or otherwise of the developments with the plan; if required, the plan must be adjusted to the circumstances prevailing.

The present co-ordination is not only for collecting information. The important thing is to work out this information to compose a complete unit. Planning cannot possibly end with the submission of the plan only. For along with the developments in our economic and social fields, an increasing number of problems will emerge and must be solved.

The highest authority for the preparation and determination of the development plan is the Economic and Planning Board. Co-ordination in the preliminary preparation of the plan and co-ordination in the execution thereof are the duties of the State Planning Bureau acting in the name of the Government. Execution of the development plan in the Government sector is carried out by the ministries concerned and by the organizations specially set up for that purpose. To ensure the smooth progress of the work, both as regards the plan itself and the execution thereof, the ministries and the special organizations should prepare the details and complete sketches of each project before they are submitted to the State Planning Bureau.

B. Preparation of regional development plans

Solely because of insufficient information, the First Five-Year Plan views all problems from the national angle by considering the state as an economic unit. But when the projects are considered in their respective fields (roads, irrigation, harbours, etc.) it will be noted that this Five-Year Plan has shown distribution of the projects all over the Indonesian Archipelago.

Naturally, this distribution can not be applied to all projects such as the establishment of urea manufacturing industry, for example, from natural gas. Both in respect of the place of the raw material (natural gas), the problem of transportation and other factors, the choice must fall on South Sumatra as the place of its establishment.

In future, the development of the regions needs proper planning. For this purpose, due attention should be given to the interests as well as potentialities and resources of the regions concerned, without ignoring the interests of the nation as a whole. In some provinces, committees or other organizations have been set up for the development of their provinces. These efforts are heartily welcomed and co-ordinated later.

C. Preparation of annual programmes and their organization

It has been explained that yearly plans and long-term plans mutually affect each other. The consequences are that the State Planning Bureau as the institution which prepares the long-term plans must also act as co-ordinating and planning body for the yearly plans.

In this connexion, reference is made to the Inter-departmental Co-ordination Committee (PAKIN) which consists of the Director-General of the State Planning Bureau as Chairman and representatives of various ministries as members. PAKIN is responsible for co-ordination in economic and social fields affecting all foreign aid for various ministries. Development projects, therefore, should be taken into discussion in the periodical meetings of the Inter-departmental Co-ordination Committee. This means that the budgets of the various ministries for development projects should be submitted first to the State Planning Bureau (with it PAKIN) for joint analysis and discussion with the ministries concerned. Later, these budgets along with the ordinary budget are submitted to the Council of Ministers and to Parliament.

D. Establishment of policy regarding development

Our Five-Year Plan is a general policy on our future economic and social life. But yearly plans cannot possibly be prepared without establishing first the policy to be followed in each field for the year concerned. Co-ordination between the policy on annual plans and projects

fusion of two boards, namely the Economic and Financial Board and the State Planning Board, into an Economic and Planning Board under Government Regulation No. 15 of 1956 (as published in Statute Book 1956 No.28).

E. Study of the results obtained

The results obtainedin a certain period may reflect our capabilities in carrying out this Development Plan and on the basis of the information received policies may be established in each field and a budget for the next year may be compiled. The information should be collected within the shortest possible time and expert personnel are needed for its accurate analysis.

F. Collection and analysis of statistical materials

One of the difficulties in the preparation of the Five-Year Development Plan is the lack of quantitative information, while the reliability and accuracy of the available information are to some extent imperfect. For the preparation of the second Five-Year Development Plan efforts must be made to get quantitatively sufficient and adequately reliable information. This information material is also needed for evaluation purposes of the execution of the first Five-Year Plan.

In addition to efforts to complete and improve the quality of the available statistical material, it is necessary to compile an order of importance of the various statistics for planning and evaluation. This priority material may be obtained quickly by conducting sample surveys, a method that has been applied extensively and which has produced sufficiently reliable information in a reasonably short time.

What is urgently needed is the improvement of the production statistics, especially industrial production. Priority is also necessary for obtaining statistics on a number of important raw materials produced by certain industries or enterprises and used as raw materials by other industries. With commodity budgeting of important raw materials in hand, the total of the available and expected production can be seen on the one hand and the use of this production and the actual requirement thereof, on the other. This method serves as a guide for co-ordination of various industrial plans and

may be used for cement, steel, coal, electric power industries.

Furthermore, certain statistics are also required which may be used as indicators of the economic situation, such as the price statistics, standard of living statistics, statistics of employment, of balance of payments, etc. These indicators serve also as a guide in determining the influence of the execution of the development plan on the economic situation.

Especially valuable, of course, are statistics on national income with information regarding savings, capital formation, etc. Although priority is given in the beginning to the preparation of statistics on more limited fields, it is necessary to compile statistics on national income immediately without waiting for the completion of all the required statistics. What is important is not extremely precise calculation of the national income for one or two certain years, but sufficiently reliable calculations for a number of consecutive years so that trend of the economic developments generally and individual development of the various sectors of economy may be seen.

The total population, composition of population, rate of increase, etc. are important materials that can be obtained by taking census and sample surveys (see chapter on Population).

To use low-quality statistics as a basis for determining a policy is possibly more dangerous than to use none at all. It is therefore necessary to conduct analytical investigation of the statistical materials to determine the quality of these statistics and the extent of their employment as a basis for some measures.

Although we must always endeavour to raise the quality of our statistical materials, it must be remembered that what we need is not perfect statistics but sufficiently reliable statistics which may be employed for the purposes concerned.